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APPROVAL SHEET

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How Safe Are the Blind?

Thesis and Abstract Approved: _____

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Date:

HOW SAFE ARE THE BLIND?

by

Myrum Smith Shumway

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fulfillment of the requirements for the
degree of Master of Arts

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CHAPTER I

INTRODUCTION

What is the Problem? Many people have noticed the blind traveling along the crowded city streets aided only by a white cane or a guide dog and may have wondered just how safe the blind really are. There are many blind men and women who operate power machinery side by side with sighted people in factories, and the question might be posed: How safe are the blind in these factories? There are blind people working in their homes, rearing children and performing all the daily household tasks done by sighted people in their homes. How safe are they in running their washing machines, sewing machines; in bathing the baby; in cooking, ironing; in traveling about the house, etc.? To state the problem more specifically: How safe are the blind in and about the home, in traveling, and on the job? The purpose of this study is to help to answer the several aspects of this question.

Method of Approach to Problem. In an attempt to find out how safe the blind person is, a questionnaire was developed to determine the number of major or minor injuries the blind person has suffered (1) in and about the home, (2) in traveling, and (3) on the job. The questionnaire was developed in order to permit the following comparisons.

1. The sexes were compared as to the number of injuries sustained in certain environments.
2. The age factor was compared with the type of

injury sustained.

3. The degree of blindness was compared with the type of injury sustained.

4. The number of persons receiving sick benefits was compared with the degree of blindness, sex, mode of travel, and percentage of persons receiving injuries.

5. The number of years the blind person has been independent through employment was analyzed to show relationship of years of employment to injuries.

6. Present occupations were analyzed to show percentage of injuries in each occupation, and the degree of blindness was compared with percentage of injuries in each occupation.

7. The period of time the blind person has been with the present employer was compared with the type of vision.

8. The time lost because of illness was compared with the age group and type of job.

9. The method of travel was compared with the type of injury sustained.

10. The number of persons holding life insurance and the number who paid increased premiums was compared with the degree of blindness, type of job.

11. The number of industrial accidents involving the blind was determined.

12. The length of time the person was industrially

blind was compared with the number of injuries sustained.

13. Additional disabilities or disabling conditions of the blind person were compared with the number who have paid increased insurance premiums, type of injury sustained, and time lost because of illness.

Definition of Terms. An industrially blind person is one who has twenty-two hundreds vision or less in the better eye with best correction. A person with twenty-two hundreds vision sees at twenty feet what a person with twenty-twenty vision sees at two hundred feet. A person is also said to be industrially blind if he has limited visual fields which cover an area of twenty degrees or less to the front. This is known as "gun barrel", "telescope", or "pin-point" vision. If a fully sighted person would look through a gun barrel, he would receive some impression of the handicap the industrially blind person is under who goes through life seeing only the small area within this diameter.

The term "legally blind" means generally the same as industrially blind. The two terms are used by different government agencies and private institutions.

When the term "partials" is used, it is meant to include all industrially blind persons except those who are totally blind, or "totals".

The different degrees of blindness are defined as follows:

Good object perception--Generally speaking, a person

with this degree of blindness can travel without a cane or just as a sighted person. He can readily see people, although he might not recognize them unless they are very near him. He might be able to read headlines in newspapers.

Poor object perception--A person with this degree of blindness travels with a cane and can only make out figures at close range. He cannot read headlines in newspapers.

Light perception--A person with light perception can only tell light from darkness and might be able to say that there is a dark, heavy object in front of him, or see a light at night.

Total blindness--A person with both optic nerves dead is totally blind. His eyes may or may not be artificial. He sees no light.

A major injury is one which causes a person to lose one day or more from work because of injury. A minor injury is one which causes the person injured to lose less than one day from work.

Comparable studies. No comparable studies were located. The following investigations were made. The Enoch Pratt Free Library was contacted, and all books, studies, and any literature pertaining to work for the blind was checked. No directly pertinent studies were found therein. From the American Foundation for the Blind and the Perkins Institute in Massachusetts pamphlets were obtained which

with this degree of blindness can travel without a cane or just as a sighted person. He can readily see people, although he might not recognize them unless they are very near him. He might be able to read headlines in newspapers.

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listed all unpublished studies on work for the blind. There was nothing in this list which correlated close enough with this study to be useful. Outstanding individuals (who will be referred to later) in work for the blind were contacted and none of them knew of a comparable study.

Need for the Study. Some persons working with the blind felt that such a study would be of considerable benefit in work for the blind, their reason being that there was practically a total lack of factual information dealing with the safety of the blind, and that it was difficult to prove to employers and insurance companies how safe the blind were. Here opinion had to be expressed on many occasions and in many instances this did not convince the sighted employer who could employ a blind person to work in his factory that the blind person really was safe. In the absence of factual information, life insurance companies continue to charge increased premiums to the blind. Definite data compiled on the safety of a large representative number of blind throughout the United States and Canada might help to clear up erroneous thinking, or at least act as an incentive for a greater investigation into this subject. The number of workers for the blind who cooperated in making the study a success help to show its worth. Many people who answered the questionnaire stated their interest in it and offered further cooperation. There were fifty-six persons who requested an analysis of this study on their own initiative. A letter was received from Mr. Robert Barnett and Miss Katherine Gruber

of the American Foundation for the Blind, requesting that they be allowed to consider the publication of this study.[1]

To further substantiate the need for such a study, there is the problem of the blind paying an increased life insurance premium because of blindness only. The insurance companies have no actual proof that blindness in and of itself raises the mortality of a person. The evidence they have continually referred to was a group of studies conducted many years ago, from which no information could be obtained as to possible other disabilities there were besides blindness. In other words, all blind people were charged increased premium rates, and although there is not definite proof, it can be assumed that many of these blind persons might have had other disabilities which would have increased the mortality rate even if blindness had not been present. There is no way of knowing, either, how these blind people tested were selected. Were they working? Were they shut-ins, salesmen, etc.? These studies are not satisfactory. The executives of several insurance companies were contacted, and the majority of them agreed that there was not enough factual information to justify charging the blind increased life insurance rates.

There were many inconsistencies in life insurance rates. One factual study brings out the point that a certain type of people suffer more premature deaths because of accident than they should according to actuarial figures, yet there

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[1]See Appendix A.

is no increase in their premiums. The blind, even though there is no factual, conclusive information to justify it, pay an increased premium simply because long established precedents say so, and a precedent is a hard thing to change in this instance.

Limitations of the Problem. The questionnaire approach was used in this study, and the only source of data was the information contained in the returned questionnaires. Questionnaires were sent to industrially blind people who are employed or who have been employed as blind. The type of employment was unrestricted and no race or sex lines were drawn. People from all races presumably have returned these questionnaires, which were sent throughout the United States and Canada. People receiving the questionnaires were given about two weeks to return them.

Sighted persons occupying similar jobs were not studied to serve as a criterion.

Analysis of Procedure.

1. The topic "How Safe are the Blind?" was selected because investigation revealed that very little research had been done in this field, and there were no comparable studies.
2. The areas for which information was to be obtained were enumerated.
3. A questionnaire was developed in terms of these areas.[2]

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[2]See Appendix B.

4. A list was obtained from the Federal Office of Vocational Rehabilitation of all the people in the United States who were engaged in placement and training of the blind. The membership list of The American Association of Workers for the Blind was also obtained. From these two lists a group of people was selected and asked to cooperate in this study.[3]
5. Questionnaires were sent out individually to blind persons and in bulk mailings to workers with the blind for readdressing.[4]
6. The contents of returned questionnaires were charted.[5]
7. The charts were tabulated and graphs were compiled.[6]
8. A list of conclusions was drawn up.[7]

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[3]See Appendix C for letter.

[4]See Appendix D for cover letter.

[5]See Chapter III.

[6]See Chapter III.

[7]See Chapter IV.

CHAPTER II

PROCEDURE

Introduction. While working for five years as a Rehabilitation Counselor for the Blind, wherein the main job is to "sell" the safety and ability of blind workers, it has often been recognized that there is practically a total lack of factual information to prove that the blind workers are safe. Casualty insurance companies do not increase their insurance rates to factories which hire the handicapped. These rates are determined by the number of accidents a particular factory has. Yet life insurance companies take the opposite stand and charge the blind an increased premium which is based solely on their blindness. A few companies do claim to charge the blind standard rates with no increase charged because of blindness; however, it will many times be found that these companies have standard rates which exceed the standard rates of larger companies. So the blind person is really paying an increased premium and not knowing it. The desire to produce some factual information that would prove the safety of the blind to the public to help clear up inconsistencies like the one mentioned above between casualty companies and life insurance companies led to the study on "How Safe Are the Blind?" not only at work, but in the home and home surroundings, and in travel.

The procedure used in approaching and conducting this study can be best explained in the following eight steps.

Research on Comparable Studies. Now that it had been

decided to make a study on the subject "How Safe Are the Blind?", it was necessary to find out what comparable studies, if any, had been made in this field or what literature was available on this subject. Previous work done on this subject might prove of great worth in performing this study.

The following investigations were made in an effort to uncover helpful literature. The Enoch Pratt Free Library was contacted and all literature in the field of the blind was noted. There were hundreds of pieces of literature on work for the blind in this library. Letters were then written to the American Foundation for the Blind and the Perkins Institute for the Blind in Massachusetts, requesting information on any and all studies that had been made in the field of work for the blind. As a result of these letters, a list of all unpublished theses in work for the blind was received. There were hundreds of studies contained herein. A letter was then written to the Federal Office of Vocational Rehabilitation, Division of Services for the Blind, asking for information, and the letter received from this office is very interesting. Since it was felt that this study might bring out some interesting facts on the safety of the blind which would prove of interest to insurance companies, the executives of several large insurance companies were written to or contacted personally. The fact that the blind pay increased premiums for life insurance in most companies because of blindness only is generally

known by those interested in the blind. Although the insurance question was only one small phase of the study, it was considered the best approach to the problem to learn the insurance men's point of view and what facts they had which supported their point of view. The interest evidenced in this study by most life insurance executives was very gratifying, and constructive criticisms which they had to offer proved of great value in conducting the study.

The Baltimore Safety Council was contacted for facts and figures on the safety of the blind.

The results of the investigations made above are as follows. There was revealed not one single study that dealt with the safety of the blind in the United States in all the published theses, unpublished theses, or other material gone over. A few people said the blind were safe, but there were no facts to back their remarks. The only similar study located was made in Canada, and that was restricted to industry. The letter received from Mr. John McAulay of the Federal Office of Vocational Rehabilitation explains that study.[8]

The insurance statistics on the blind were discussed with several insurance executives, and they all agreed that there was really not enough factual information to merit an increased premium because of blindness. However, they asked that their names and organizations not be mentioned, and this request was honored. Letters were also received from life

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[8] See Appendix E.

insurance executives.[9] These letters mention the same studies which were gone over with other insurance executives in conversation and prove to be very non-factual.

All research revealed that there was a great need for such a study, but that little, if no, work had been done on the topic. At least no comparable study had ever been made that could be discovered. Any study made on this subject would have to be very original and performed in a manner which would bring forth objective results in such quality and quantity that they would be of value in indicating just how safe the blind are.

<u>Areas of Information to be Obtained.</u> Areas in which information was to be obtained were next considered and enumerated. How safe are the blind, where, and in what way? If anyone were to ask another the question: "How safe are you?", the natural reply would probably be: "How safe am I where--at home, in traveling, or at work?" The blind person's reply to the same question would probably be the same. For this reason, it was felt that the wisest course to follow would be to find out how safe the blind were in the home and its surroundings, in traveling, and at work. It was felt that these three areas would be where the blind adult would spend nearly all of his time, and that the statistics or results of any research done would be more important if these three fields were used.

The next thing to consider was in what way each of these

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[9]For sample letter see Appendix F.

institutes' executives.[7] These letters mention the case studies which were gone over with other institute executives in conversation and proved to be very beneficial.

All research revealed that there was a great need for such a study, but that little, if any, work had been done on the topic. At least no comparable study had ever been made that could be discovered. Any study made on this subject would have to be very original and performed in a manner which would bring forth objective results in such quality and quantity that they would be of value in indicating just how safe the blind are.

Areas of information to be obtained. Areas in which information was to be obtained were much considered and pondered. How safe are the blind, where, and in what ways? If anyone were to ask another the question: "How safe are you?", the natural reply would probably be: "How safe am I where—at home, in traveling, or at work?" The blind person's reply to the same question would probably be the same. For this reason, it was felt that the wisest course to follow would be to find out how safe the blind were in the home and its surroundings, in traveling, and at work. It was felt that these three areas would be where the blind adult would spend nearly all of his time, and that the statistics or results of any research done would be more important if these three fields were used.

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[7] For sample letter see Appendix F.

fields should be analyzed. Should the number of injuries a person had sustained in each field be determined? That brought up this question: How would injuries be divided according to severity? Could this be told by days lost from work? After all, a sprained ankle might cause a person to lose three hours of work, but on the other hand might cause him to lose two weeks. For this reason, it was decided to divide injuries according to days lost from work because of the injury. This would indirectly tell us how severe the injury really was. The injuries would be classified as major or minor.

The above method, with certain modifications in usage of terms, is used by the National Safety Council and others, so it was assumed to be the best method. Therefore, it was hoped that a study would bring out how many major or minor injuries a blind adult had in his home and surroundings, in traveling, and while he was on the job.

Even if the number of injuries of a certain type in a certain environment were known, it would still be necessary to know other things about the blind individual to make the study more valid. For instance: How long had he been blind? How old was he? What was his degree of blindness? How did he travel? What type of work was he in? Did he have life insurance? What other disabilities did he have? How much time had he lost because of sickness, etc.? For this reason, it was felt that any study made should contain these facts about the blind who had received the injury. This area would

be called general information.

The four areas to be studied were then divided as such: (a) general information about the blind, (b) how many major or minor injuries the blind had in their homes or home surroundings, (c) how many major or minor injuries the blind had in traveling, and (d) how many major or minor injuries the blind had at work.

Questionnaire Method for Obtaining Information. How could the above information concerning the number of injuries incurred by the blind be obtained? As has been stated, there was no material available in this field; therefore, no research into literature would bring out the factual information desired. The interview method was considered, but dropped because of time involved and the limited sampling which could have been obtained by this method. It was finally decided to make up a questionnaire which would cover these four areas: (a) general information on the blind, (b) major or minor injuries in the home or home surroundings, (c) major or minor injuries in traveling, and (d) major or minor injuries at work. It was felt that this questionnaire should be objective in order to be a more valid and reliable study. This would also make it more factual and easier to evaluate.

The final questionnaire was modified and changed several times. Several copies were made and given to individuals for their constructive criticism. Other copies were read before groups and their remarks were noted. Home teachers for the

blind, a supervisor of services for the blind, a member of the staff of the Federal Office of Vocational Rehabilitation, my advisor, and several others were consulted. When it was felt that the questionnaire was adequate, ten copies were sent out as a sample mailing. This sampling went to individuals in diversified jobs, of many different ages, and with different degrees of blindness and different methods of travel. A rather unusual thing happened in that all ten were returned. A few more changes were made and the final questionnaire was ready for mailing.[10] It was to be a four-page questionnaire, placed on the backs and fronts of two sheets. A cover letter was then written to explain this questionnaire.[11] A return self-addressed, stamped envelope was enclosed with the questionnaire and cover letter when mailed.

Who Were Asked to Cooperate? While the questionnaire was being developed, much thought was given to the type of person who should receive it. It was already decided that the recipients should be blind adults of either sex and any race who were working at present or who had worked as blind persons.

It was now felt that all occupations should be represented as well as all states and Canada. Where could a sampling of the blind who would fit this category be acquired? This problem was solved when it was learned from a worker for the blind in the Federal Office of Vocational Rehabilitation

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[10] For questionnaire see Appendix B.

[11] For letter see Appendix D.

that a list of most individuals doing placement work for the blind in the United States could be obtained from the Federal Office of Vocational Rehabilitation. Upon the receipt of this list, a letter was composed and sent to all of these people on March 24, asking for their cooperation in the study on "How Safe Are the Blind?"[12] This letter asked for a list of names and addresses of the blind. Many cooperated, but some replied that even though they would like to cooperate, they were not allowed to send out names and addresses of the blind clients. The letter sent them had not asked for clients of their agency, but had merely asked for blind persons known to them. However, to clarify their thinking, another letter, dated April 4, was sent, asking them to cooperate by accepting questionnaire kits and merely readdressing them to blind people known to them.[13]

A few replies indicated that the heads of the agencies should have been written to also. To satisfy this suggested problem, a letter similar to the letter dated April 4 with a postscript was sent out to the heads of many agencies, organizations, and groups of blind workers in the United States and Canada.[14] The names and addresses of such people were taken from the 1950 Convention Report of the American Association of Workers for the Blind. Two hundred and forty-three people were contacted by letter, asking them to

[12] For letter see Appendix G.

[13] For sample see Appendix H.

[14] See Appendix I.

cooperate in the study, either by sending a list of names and addresses of the blind, or by accepting bulk mailings for readdressing.

Method of Distributing Questionnaires. Nine hundred and eighty-two questionnaires were distributed to individuals either directly or indirectly. If indirectly, a bulk mailing of questionnaire kits was sent to the cooperating individual for readdressing. All persons received, besides the questionnaire, a cover letter and a return addressed and stamped envelope. A deadline was set up for the return of the questionnaires. This was done to speed up replies. All persons receiving the questionnaires had from ten days to two and one-half weeks to respond.

Method of Recording Returned Questionnaires. As the questionnaires were returned, the results of each were charted.[15] Questions were placed vertically on the left side of the chart. Vertical columns were used to the right of the questions and the contents of each questionnaire were filled in the columns. Each column on the chart contained the contents of one questionnaire. Once the information was removed from the questionnaire, the questionnaire was of no further value; however, questionnaires were kept as proof. Twenty-one large charts were used for the charting of the questionnaires. Each questionnaire was numbered to correspond with a specific column on the chart. The chart will be

[15] See Chapter III.

difficult for anyone to read because of the many short cuts used, for example, the results of the men's questionnaires were recorded in red pencil and the women's questionnaires in blue pencil. If "Yes" or "No" was required, the "No's" only were checked. If no answer was given on a particular question, a cross was inserted in the blank. The sample chart will merely give the reader an idea of the procedure used. Charts were also kept as proof for the study. The charts were twenty-one inches by thirty-two inches. Both back and front were used.

Making of Graphs and Charts. The charts were now tabulated and graphs and tables compiled. This procedure was the most difficult procedure of any.

In the approach to the problem on page 1 of Chapter I, the comparisons to be made in the study were stated, also what the comparisons are meant to point out. These comparisons were placed either in tables or in graphs. The method was adopted which would most clearly and rapidly give a visual picture of the comparisons to the reader.

Conclusions Enumerated. All responses received as a result of this study were indicated. The importance of these responses was considered. All results with conclusions were recorded.

The different graphs and charts in Chapter III were discussed and certain conclusions were drawn and stated. The graphs and charts were numbered by sections in Chapter III, and in Chapter IV the section devoted to a particular graph

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The different graphs and charts in Chapter III were discussed and certain conclusions were drawn and stated. The graphs and charts were numbered by sections in Chapter III, and in Chapter IV the section devoted to a particular graph

or table corresponds in number. For example, the conclusions stated under Section 5 of Chapter IV are based directly on the chart and graphs of Section 5 of Chapter III. This made for easy reference. It might be further noted that these sections correspond directly with corresponding questions in the questionnaire.

CHAPTER III

PRESENTATION OF THE DATA

Introduction. The results of all questionnaires were placed on charts. The tabulations of these charts are shown by means of tables and graphs in this chapter. This chapter is divided according to sections, and each section corresponds to an identical number on the questionnaire or to a similarly numbered step listed under Method of Approach to Problem (Chapter I, page 1). As an example, Section 4 of this chapter would relate to information obtained from question 4 on the questionnaire and would be directly correlated also with step 4 under Method of Approach to Problem in Chapter I. Section 4 in this chapter, question 4 of the questionnaire, and step 4 in Method of Approach to Problem all deal with sick benefits received by the blind. It is hoped that this uniformity throughout this thesis will make for easier reading and better understanding.

It should be stated here that the sexes are separated only in Section 1 and Section 2 of this chapter. The intent is not that of comparing the safety of blind men with the safety of blind women. This study is concerned with the safety of the blind as a group. Sections 1 and 2 of this chapter do, however, give some interesting statistics, comparisons, and relationships which will make the study more understandable to the reader.

The tabulations are based upon 438 usable returns out of a total of 450 responses.

Table 1. Distribution of Responses by Sex and Age

	Up to 25	26-35	36-45	46-55	56 over	Total
Women	11	29	36	33	4	113
Men	31	105	79	59	47	325
Total	42	134	115	92	51	434

Table 2. Distribution of Responses by Sex, Average Age, and Range

	Average Age	Youngest	Oldest
Women	39.32	17	71
Men	39.18	18	76

Table 3. Injuries Incurred with Distribution by Severity, Sex, and Environment

	Major		Minor	
	Women	Men	Women	Men
Home	7	4	5	13
Surroundings	7	2	3	17
Work	1	10	4	13
Travel	3	9	10	23
Total	18	25	22	66

Home and home surroundings will be combined in the rest of the study. They will also be combined in the following graph.

Table 4. Distribution by Sex, Showing Injuries Incurred, and Per Cent Receiving Injuries

	Number of Persons	Number of Injuries	Number per 100 Persons
Women	113	39	34.51
Men	325	89	27.38

Table 5. Distribution by Sex, Showing Injuries Incurred, and Time Lost Resulting Injuries

	Number of Injuries	Number of Injuries	Number per 100 Employees
Males	323	39	34.23
Fem.	245	5	2.04

Fig. I Major and Minor Injuries Incurred in Different Environments, Showing Distribution by Sex
(Percentages based upon Total Casualties)

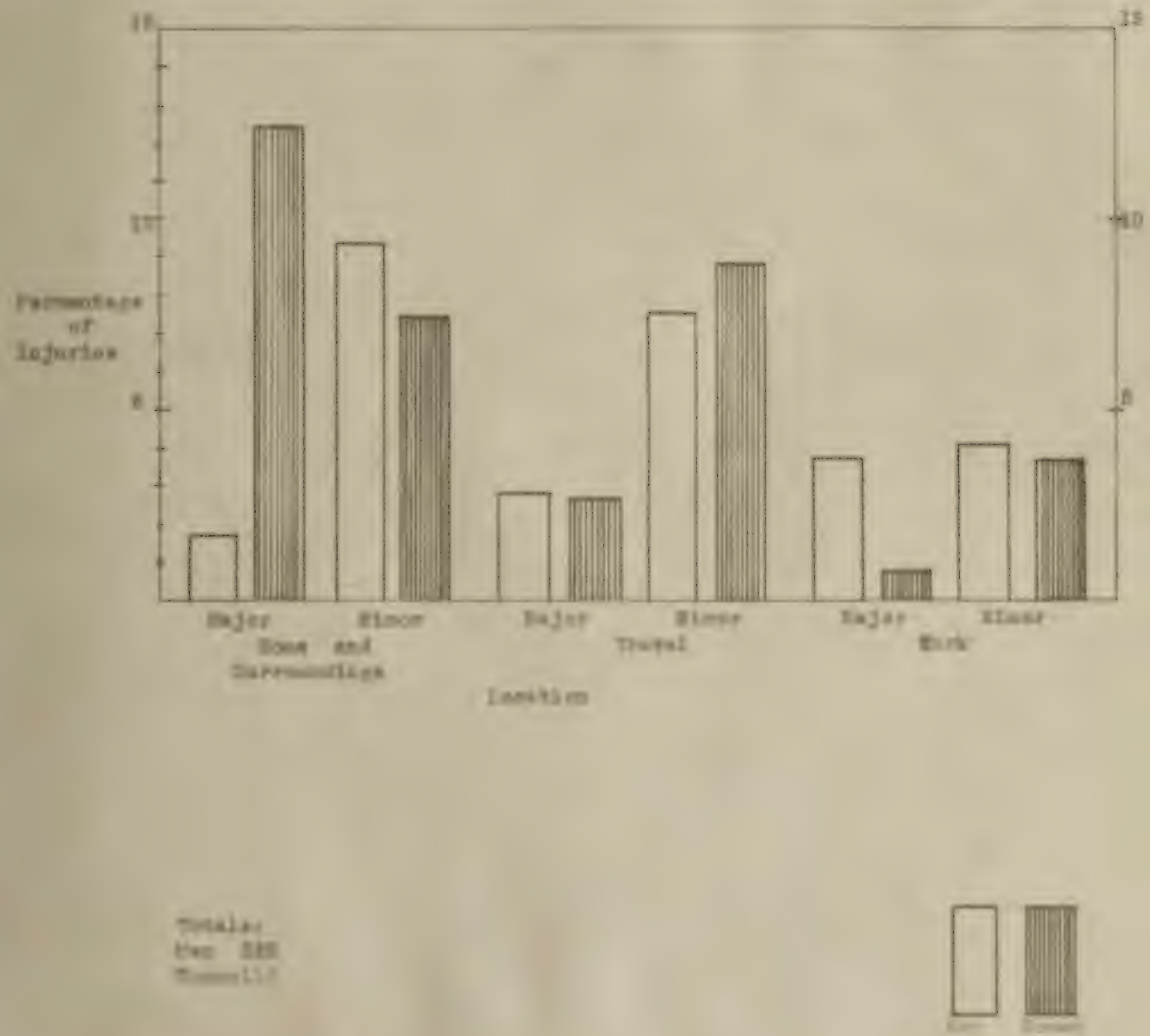


Table 5. [illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table 6. [illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table 7. [illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table 5. Major and Minor Injuries Sustained with Distribution by Degree of Blindness and Environment

	Major Injuries:					Minor Injuries:					
Environment	Object	Poor Object	Light	Total	Central	Object	Poor Object	Light	Total	Central	No Answer
Home and Surroundings	2	1	4	11	2	6	6	4	7	12	1
Work	0	3	1	5	2	3	4	3	4	2	1
Travel	1	3	3	5	1	0	8	6	12	4	2
Total	3	7	8	21	5	9	18	13	23	18	4

Table 6. Total Responses in Each Degree of Blindness

Good Object	Poor Object	Light	Total	Limited Visual Fields	No Answer
65	69	94	161	43	6

Table 7. Per Cent of Injuries Incurred According to Degree of Blindness and Environment

Environment	Good Object	Poor Object	Light	Total	Central
Home and Surroundings	12.23	10.00	8.5	11.22	32.4
Work	5.79	10.12	4.23	5.64	9.12
Travel	1.51	15.95	9.58	10.55	11.61

Table 3. Tailor and Minor Injuries [illegible]

Instrument	Tailors Injuries		Minor Injuries		Tailors	Minor	[illegible]	
Scissors and Thimbles	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Needle	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Thread	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table 4. Total Injuries in Each Degree of Difficulty

Good Tailors	Poor Tailors	Tailors	Total Injuries	Injuries Figures/Difficulty
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table 5. Per Year of Injuries Incurred during in Degree of Difficulty

Instrument	Good Tailors	Poor Tailors	Tailor	Minor
Scissors and Thimbles	[illegible]	[illegible]	[illegible]	[illegible]
Needle	[illegible]	[illegible]	[illegible]	[illegible]
Thread	[illegible]	[illegible]	[illegible]	[illegible]

Fig. II Injuries Sustained in Home Surroundings with Distribution by Degree of Blindness

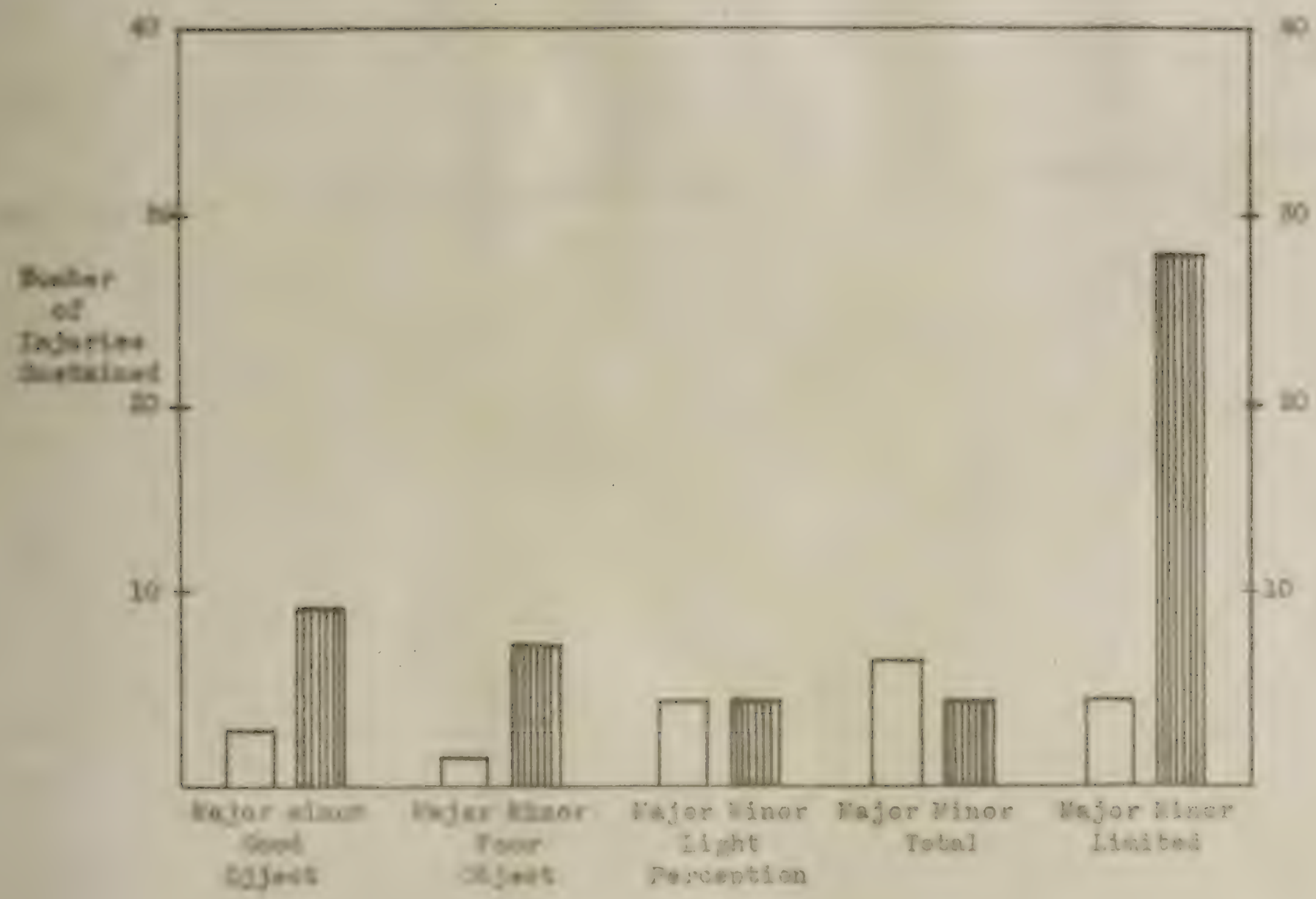


Fig.III Injuries Sustained at Work with Distribution by Degree of Blindness

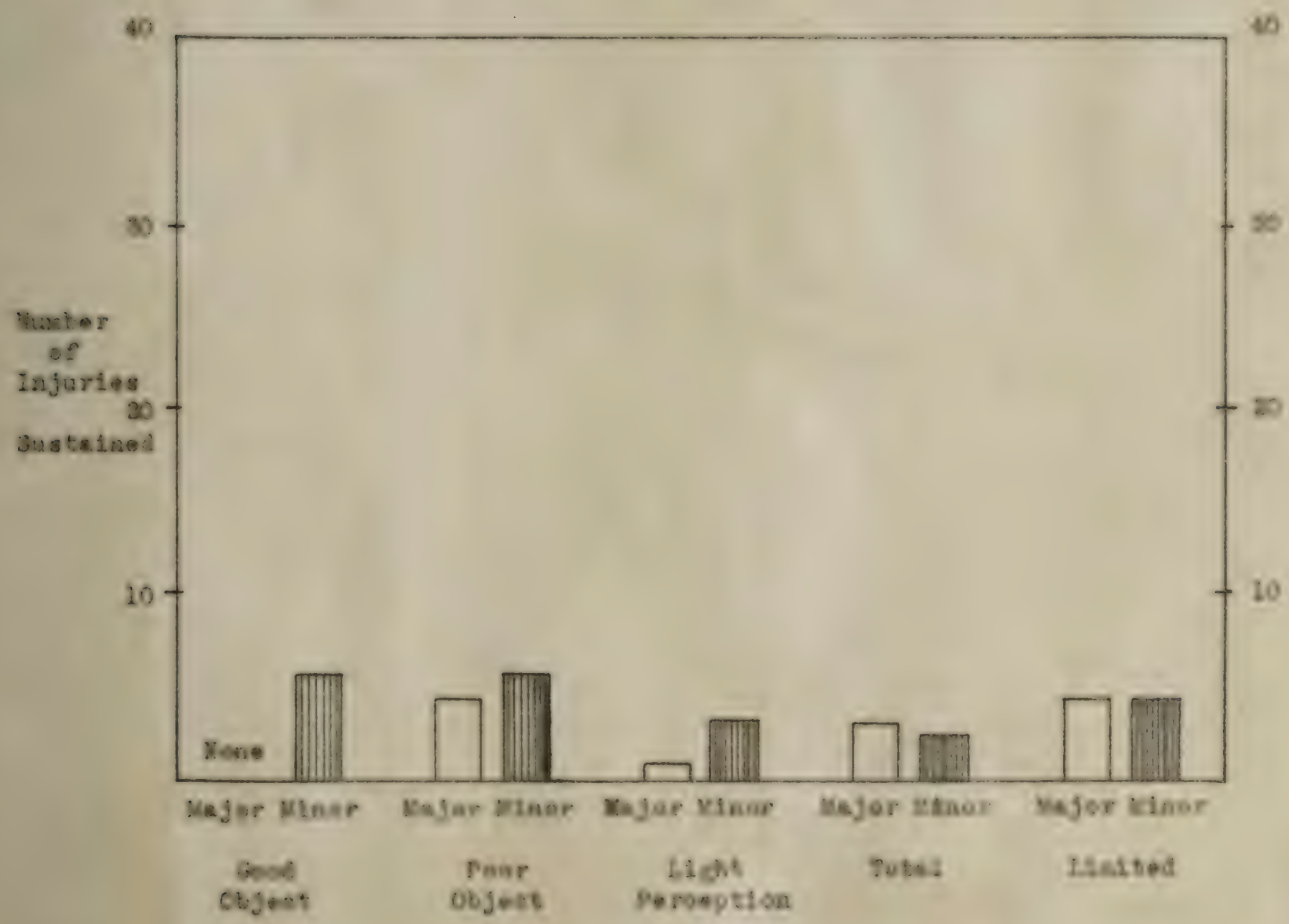


Fig. IV Injuries Sustained in Travel with Distribution by Degree of Blindness

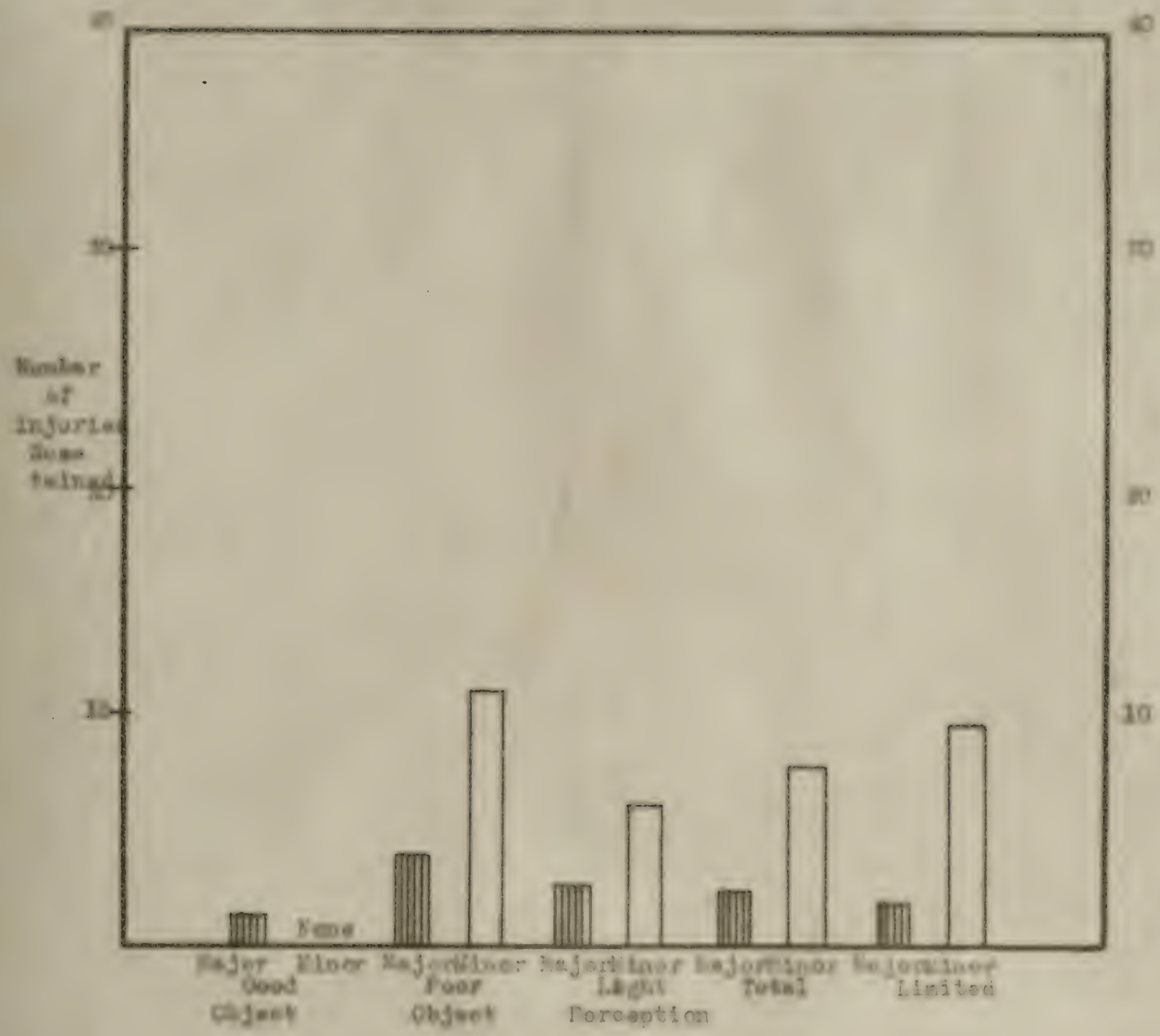
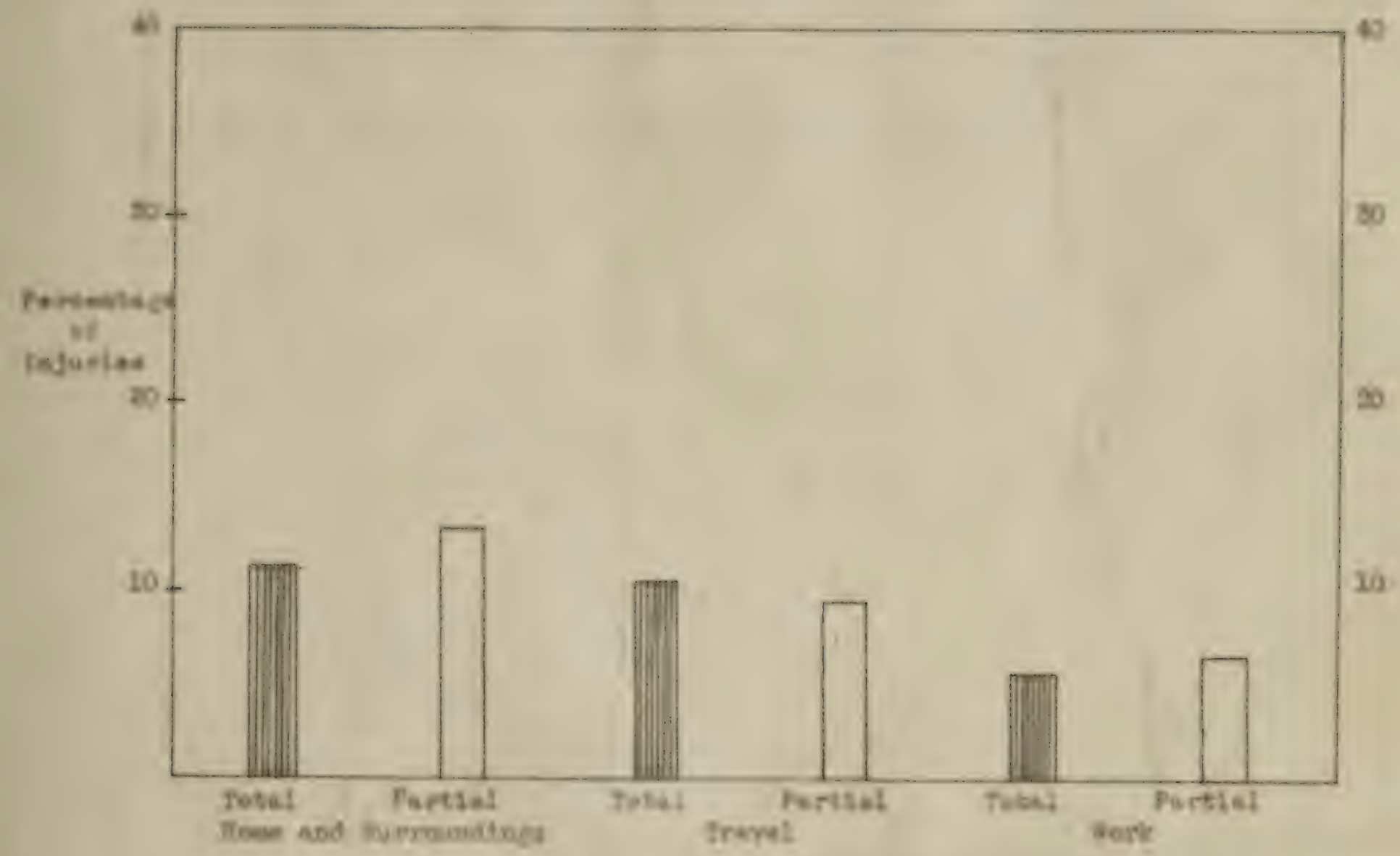


Fig. 7 Injuries Sustained with Distribution by Categories of "Total" and "Partial"
(Percentages Based upon Total Double Responses)



[illegible]

Table 8. Blind Receiving Sick Benefits with Distribution of Responses as to Sex, Degree of Blindness, Method of Travel, and Environment

Sex	Number of Persons	Degree of Blindness:					Method of Travel:					Environment:			
		Good Object	Poor Object	Light	Total	Central	Cane	Escort	Dog	No Aid	Other	Home	Travel	Work	Home
Women	6	4	2				1	1	1	1	2	1	2		3
Men	27	5	4	4	7	7	9	4	1	13	-	1	2	6	18
Total	33	9	6	4	7	7	10	5	2	14	2	2	4	6	21

Fig. 11 Sick Benefits Received by Respondents During Period of Employment, with Distribution by Degree of Blindness (Percentages Based Upon Total Usable Responses)

Fig. VII Sick Benefits Received by Residents During Period of Employment with Distribution by Mode of Travel (Percentages Based Upon Total Usable Responses)

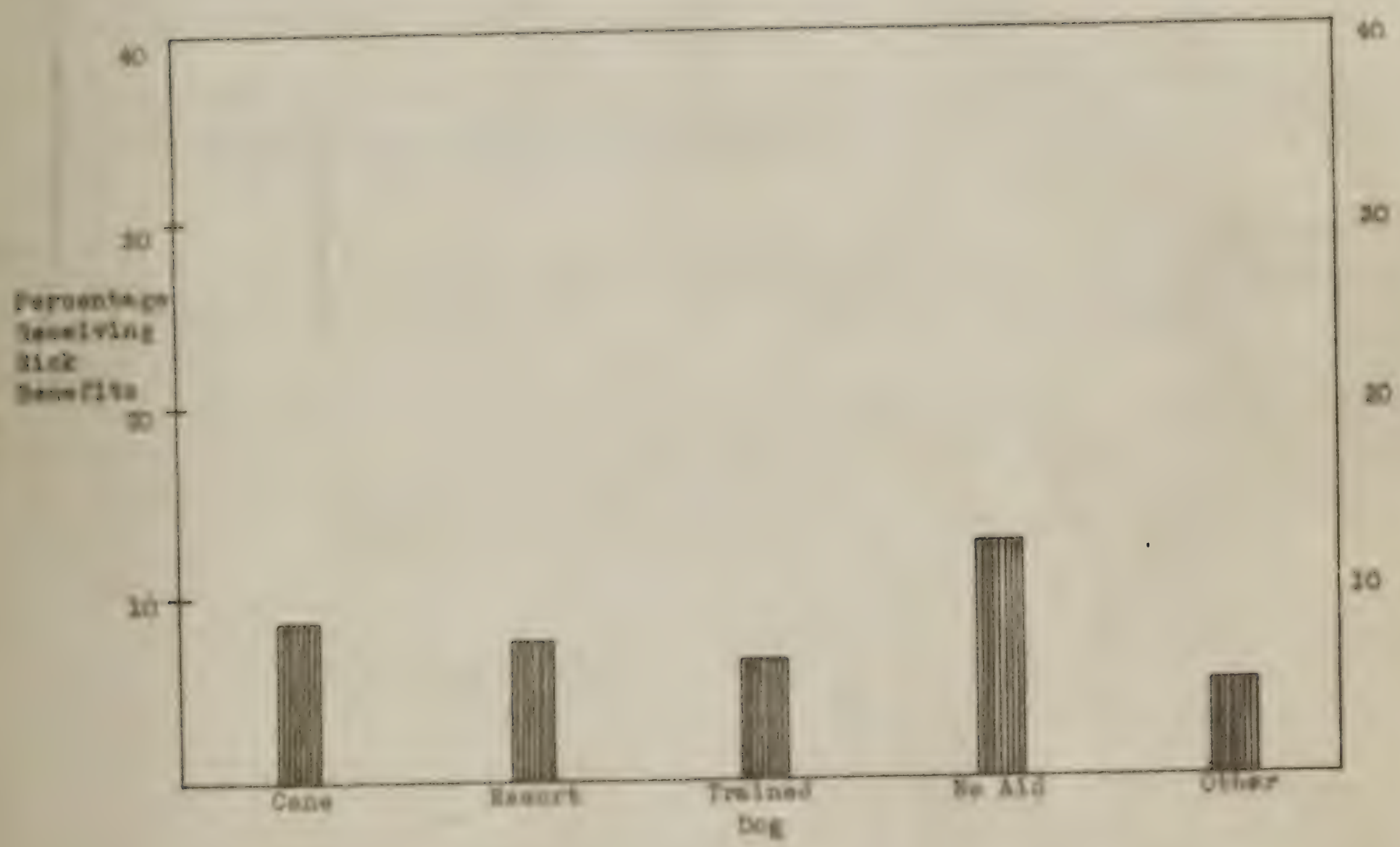


Table 3. Number of Years Independent Through Employment as Blind Person

Years	Up to 5	6--10	11--15	16--20	20 or More
Number of Persons	138	105	47	41	58
Injuries Incurred	37	19	19	6	25
No Injuries	101	86	28	35	33

Average years independent through work as an industrially blind person 10.16

Table 9. Number of Times Independent Through Dependent as Blind Persons

Times	Up to 5	6--10	11--15	16--20	20 or More
Number of Persons	194	105	47	13	10
Initiated Inactive	37	19	10	1	25
Do Initiates	101	86	30	12	35

Average years independent through dependent were as an individualistic blind persons 10.12

Table 10.- Major and Minor Injuries Incurred by Fire Crews of the [illegible]

Injury	Number of [illegible]	[illegible]	[illegible]	Percentage [illegible]	[illegible]	[illegible]
Number of Injuries	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Major Injuries	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Minor Injuries	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Per Cent Major Injuries	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Per Cent Minor Injuries	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Per Cent	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table 3. Number of Years Independent Thinking Displayed as Rated Terman

Years	5b to 9	9-11	11-13	14-20	20 or Over
Number of Persons	192	110	67	13	9
Relative Frequency	.47	.30	.21	.4	.03
% Relative	100	56	35	3	3

Average years independent thinking were as an intellectually gifted person 10.16

Table 10. Major and Minor Injuries Incurred by the Blind with Distribution by Occupational Fields

	Workshop	Stand	Self-Employed	Industry	Professional and Semi-Professional	Not Employed	No Answer	Total
Number of Persons	46	69	84	94	95	14	36	438
Major Injuries	5	5	6	6	13		10	
Minor Injuries	5	8	16	14	30	—	13	
Total	10	13	22	20	43	14	23	
Per Cent Major Injuries	10.87	7.24	7.16	6.38	13.68			
Per Cent Minor Injuries	10.87	11.6	19.47	14.89	31.55			
Total Per Cent	21.74	18.84	26.53	21.27	45.23			

Table 10. Major- and Minor- Injuries Treated by Some Dental and Oral Surgeons

Item	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Number of Surgeons	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Major Injuries	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Minor Injuries	[illegible]	[illegible]	—	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Per Cent						
Major Injuries	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Per Cent						
Minor Injuries	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Per Cent	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Fig.7 Major and Minor Injuries Incurred by the Blind with Distribution by Employing Establishment
(Percentages Based Upon Total Usable Responses)

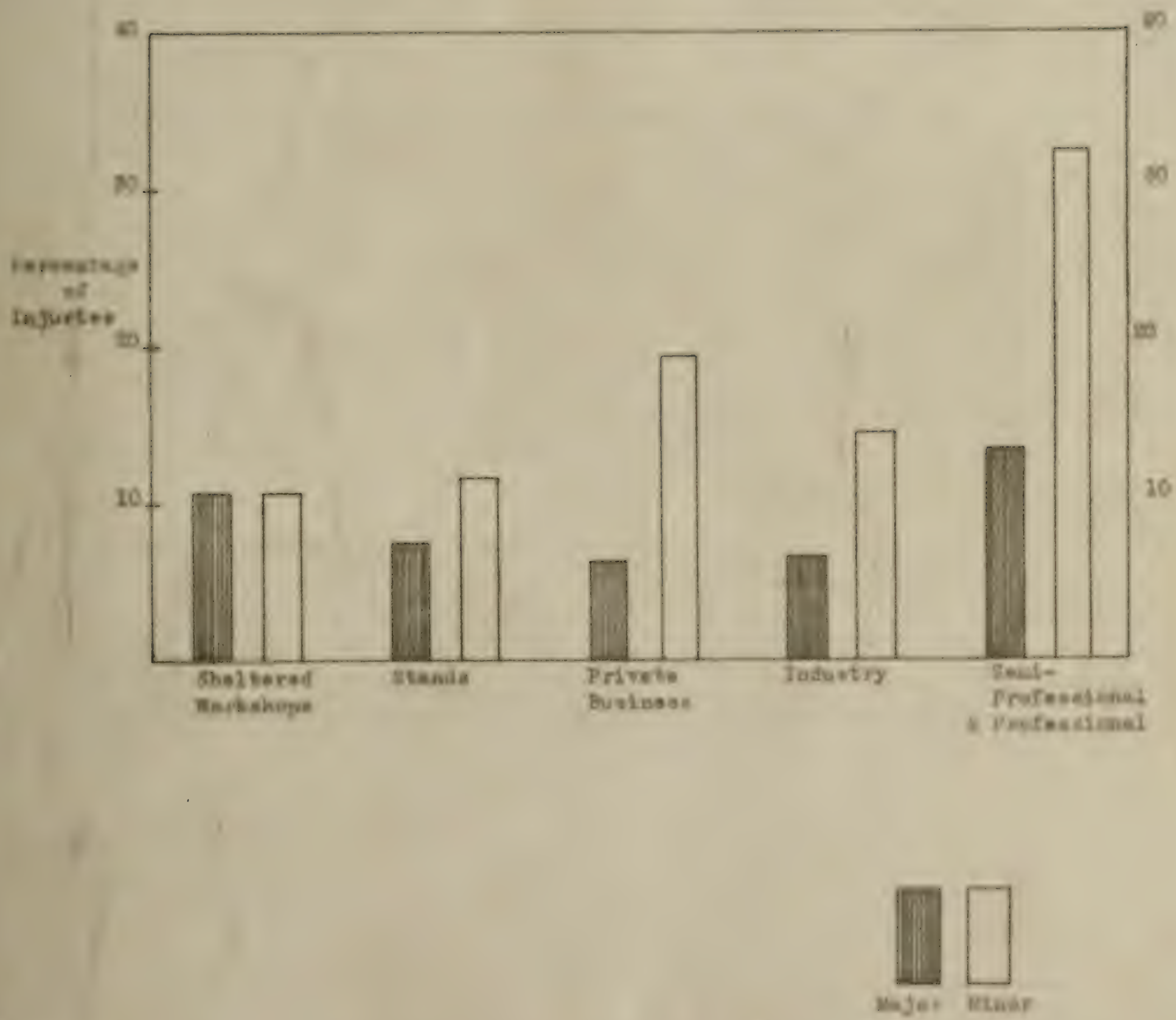


Table 11. Years with Present Organization with Distribution of Responses by Longevity

Number of Persons	Up to 5	6-10	11-15	16-20	20 or Over
315	198	82	16	11	11

Table 12. Maximum Amount Left Days at Full Total Days

Table 13. Time Last Received at Illness According to Perception

	Min.	Med.	Mid-Median	Maximum	Indefinite
Total	37	30	37	74	16
Personnel Leaving in Time	45	32	24	53	20
Personnel Leaving Time	3	34	15	23	14

Table 14. Time Been Dropped at Illness According to Age

	35-45	46-55	56-65	66-75	76
Total	50	74	73	40	26
Personnel Leaving in Time	29	41	47	23	14
Personnel Leaving Time	9	27	28	19	5

Table 12. Distribution of Time Lost Because of Illness

248	Responses
798	Days Lost
3.21	Average Time Lost
149	Persons Missed No Time
13	Persons Missed 449 Days of 798 Total Days

Table 13. Time Lost Because of Illness According to Occupation

	Shop	Stand	Self-employed	Industry	Professional
Total	19	32	37	74	46
Persons Losing No Time	10	16	26	56	22
Persons Losing Time	9	16	11	18	44

Table 14. Time Lost Because of Illness According to Age

	17-25	26-35	36-45	46-55	55
Total	31	74	75	42	26
Persons Losing No Time	22	47	47	23	18
Persons Losing Time	9	27	28	19	8

Fig. 13 Average Number of Days Lost from Work Due to Illness (Based Upon the Total Persons Reporting in Each of the Four Time Intervals)

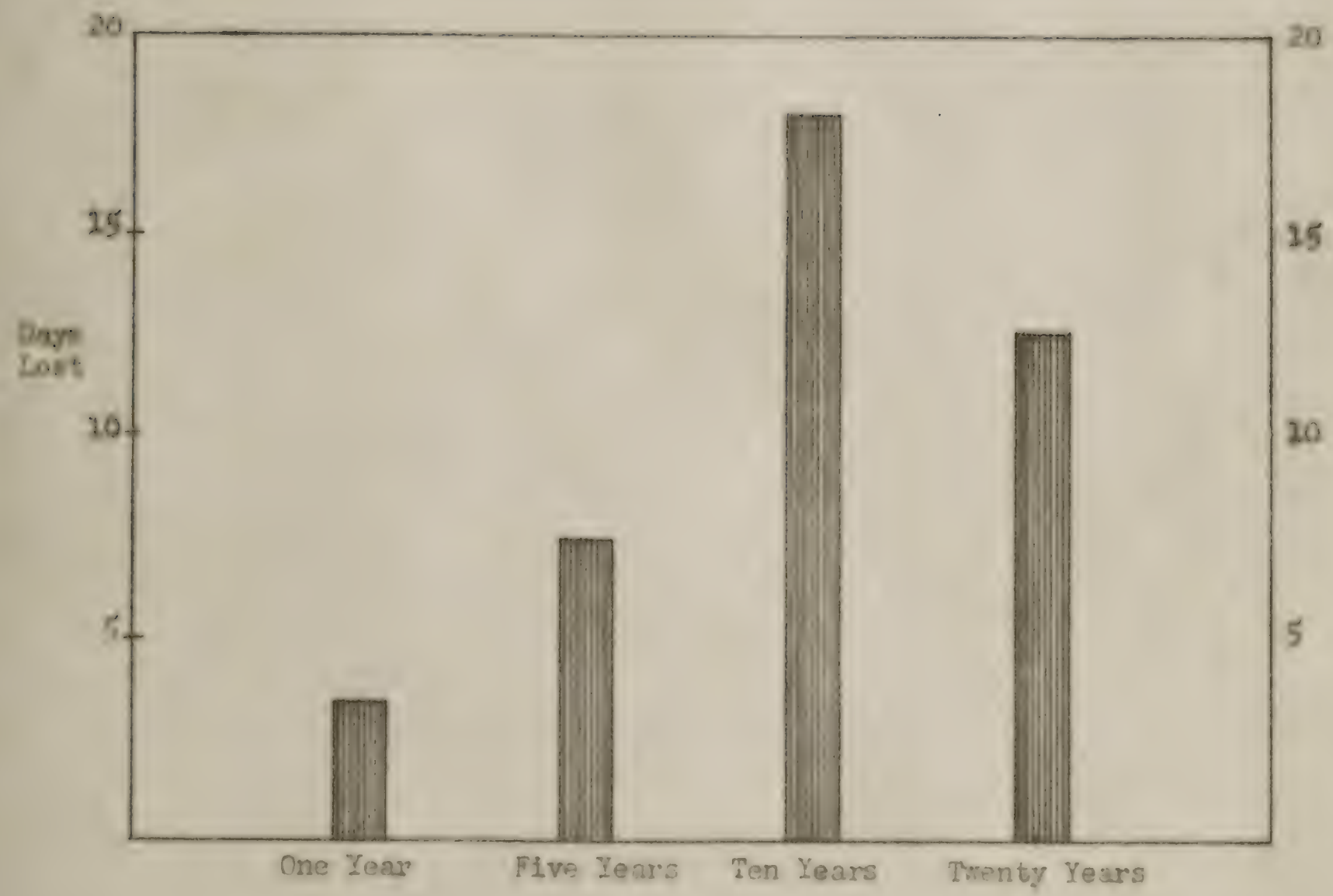


Fig. 1 Average Number of Days Lost from Work Due to Illness, Reduced to a Per Year Rate
(Based upon Total Persons Reporting in Each of the Four Time Intervals)

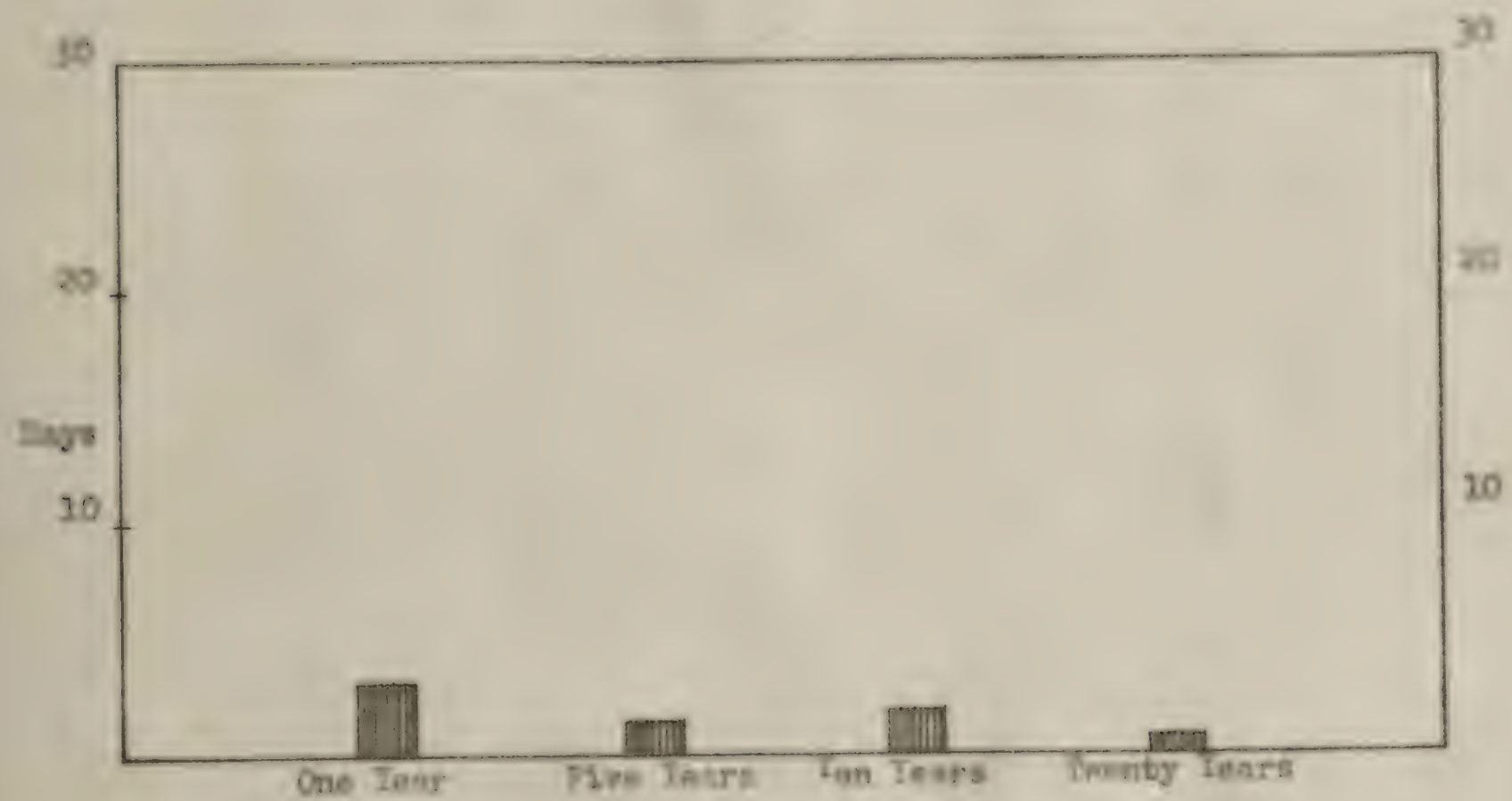


Fig.II Percentages of Blind Employees Who Lost Time From Work Due to Illness During the Past Year; Distribution by Employing Establishments
(Percentages Based Upon Usable Responses)

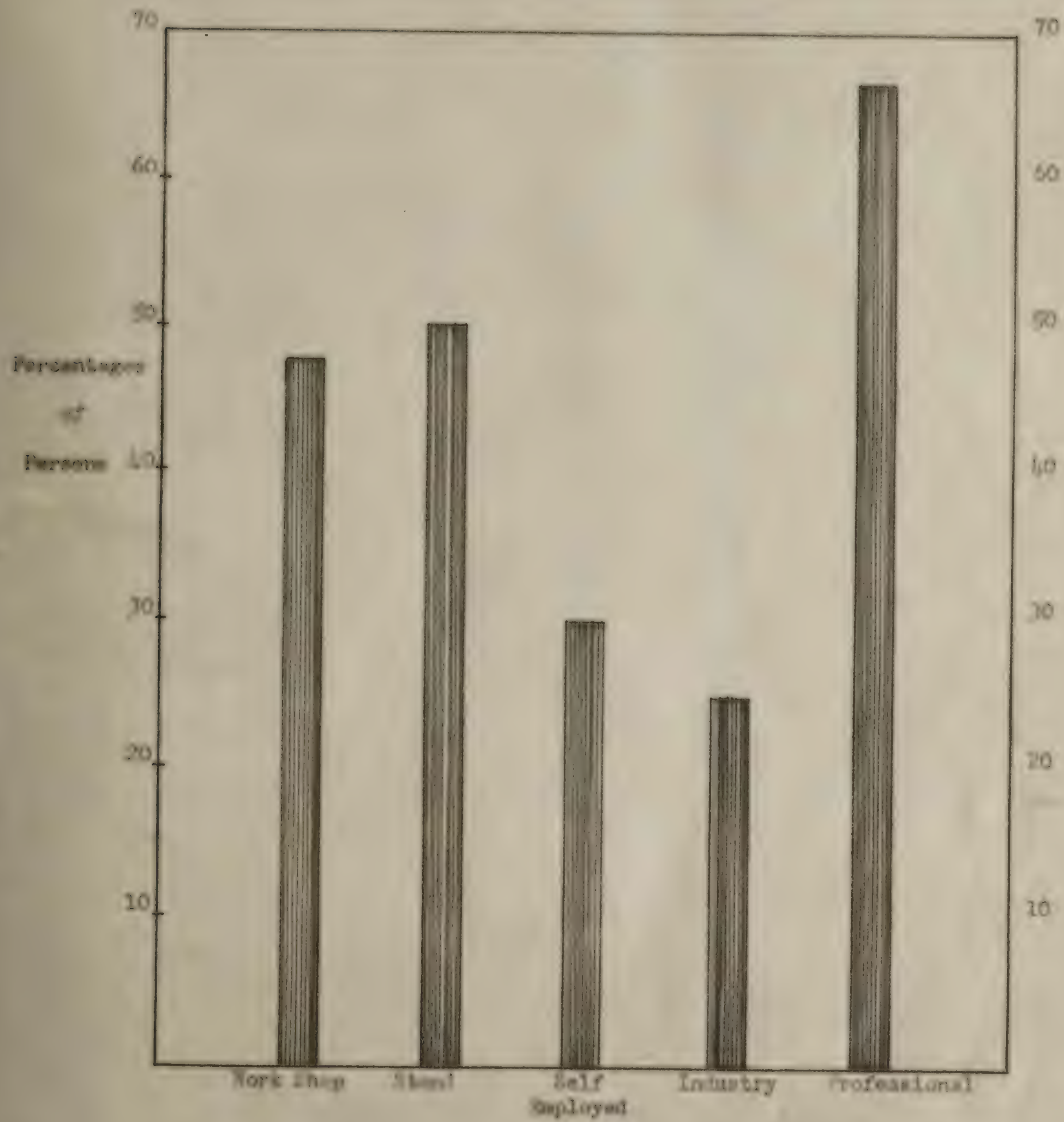


Fig.XII Percentages of Blind Persons Who Lost Time from Work During the Past Year; Distribution by Age Groups (Percentages Based Upon Total Usable Responses)

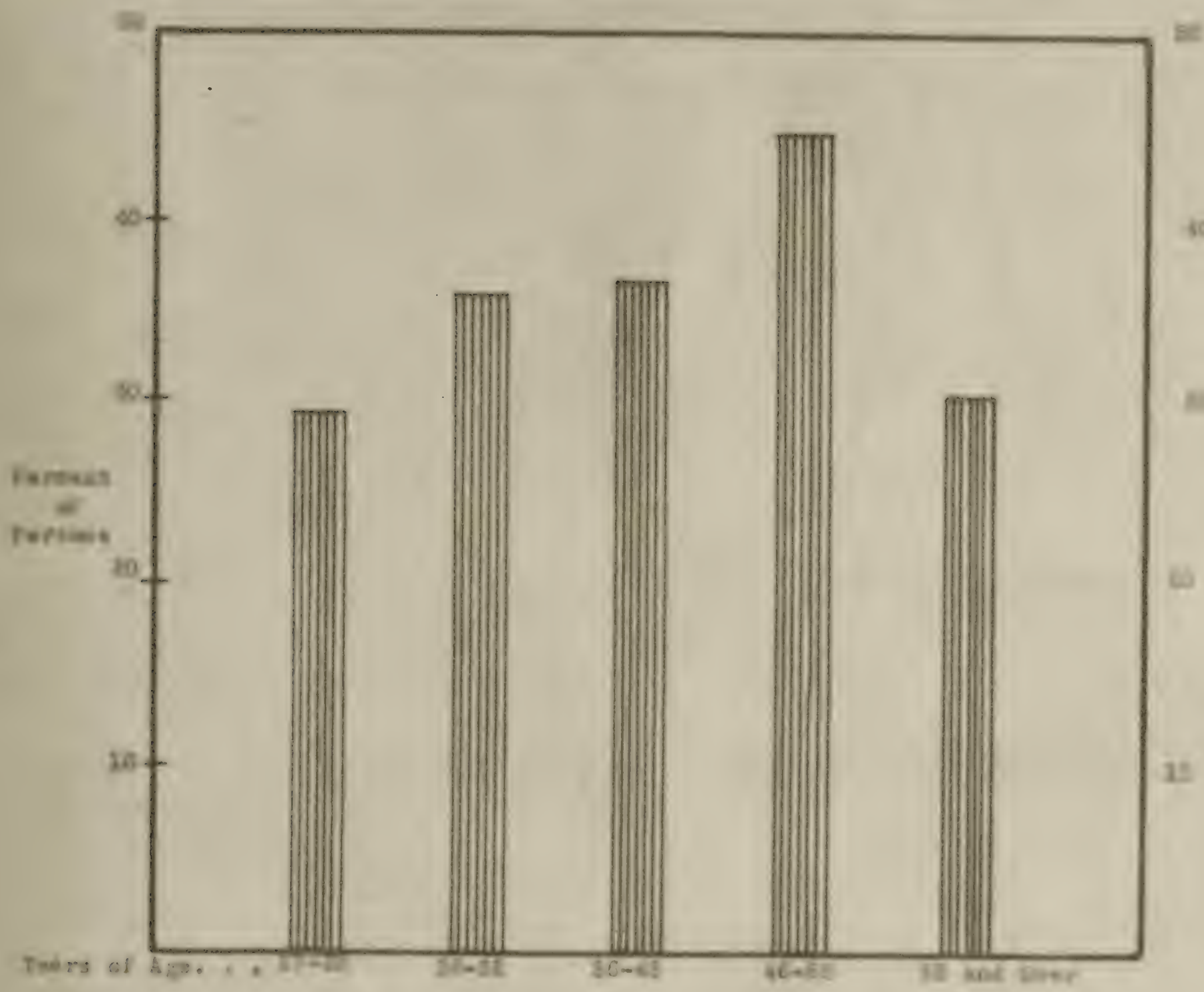


Table 15. Major and Minor Injuries According to Mode of Travel

	Canes	Escort	Dogs	No Aid	Other	No Response
Total in Study	120	64	32	113	40	64
Major Injuries	11	10	3	4	3	11
Minor Injuries	31	9	9	20	6	12

Table 16. Days Lost Because of Illness According to Mode of Travel

	Canes	Escort	Dogs	No Aid	Other	No Response
Persons Who Lost Time	28	7	8	25	6	9
Persons Who Lost No Time	48	25	11	49	14	18
Total	76	32	19	74	20	27

Table 15. Major and minor injuries occurring to mode of travel

	Cause	Equipment	Crew	On air	Other	Unknown
Total in study	120	41	32	119	12	41
Major injuries	21	10	3	6	3	11
Minor injuries	21	2	3	20	4	12

Table 16. Major load factors of flight according to mode of travel

	Cause	Equipment	Crew	On air	Other	Unknown
Passenger with load of time	31	7	0	45	0	2
Passenger with load of no time	43	21	24	40	14	21
Total	74	28	24	74	14	23

Fig.XIII Percentages of Blind Persons Who Lost Time Due to Illness During the Past Year; Distribution by Method of Travel Aid (Percentages Based upon Total Usable Responses)

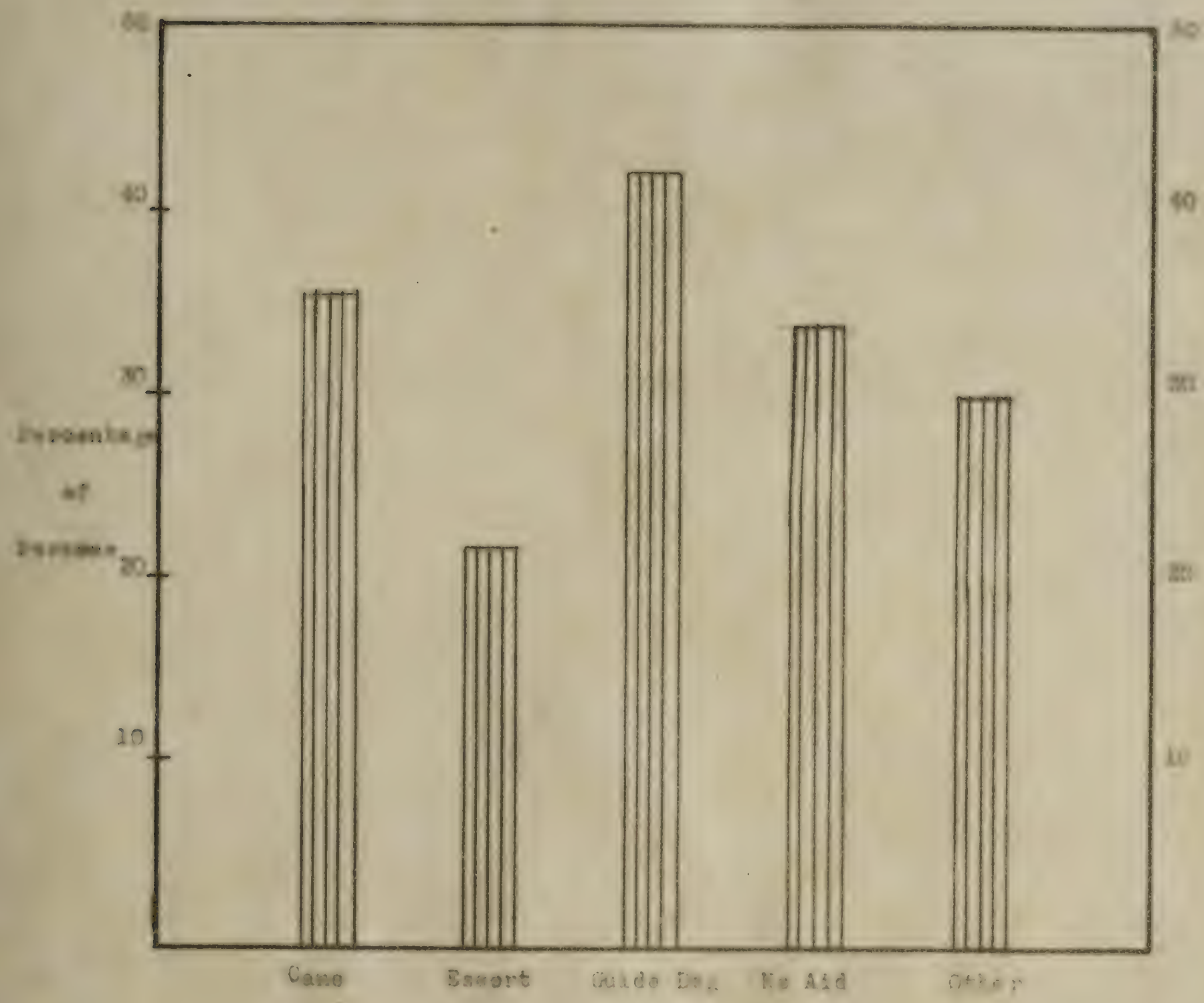


Fig. XIV Major and Minor Injuries Incurred by Blind Persons
Distributed by Method of Travel Aid
(Percentages Based upon Total Usable Responses)

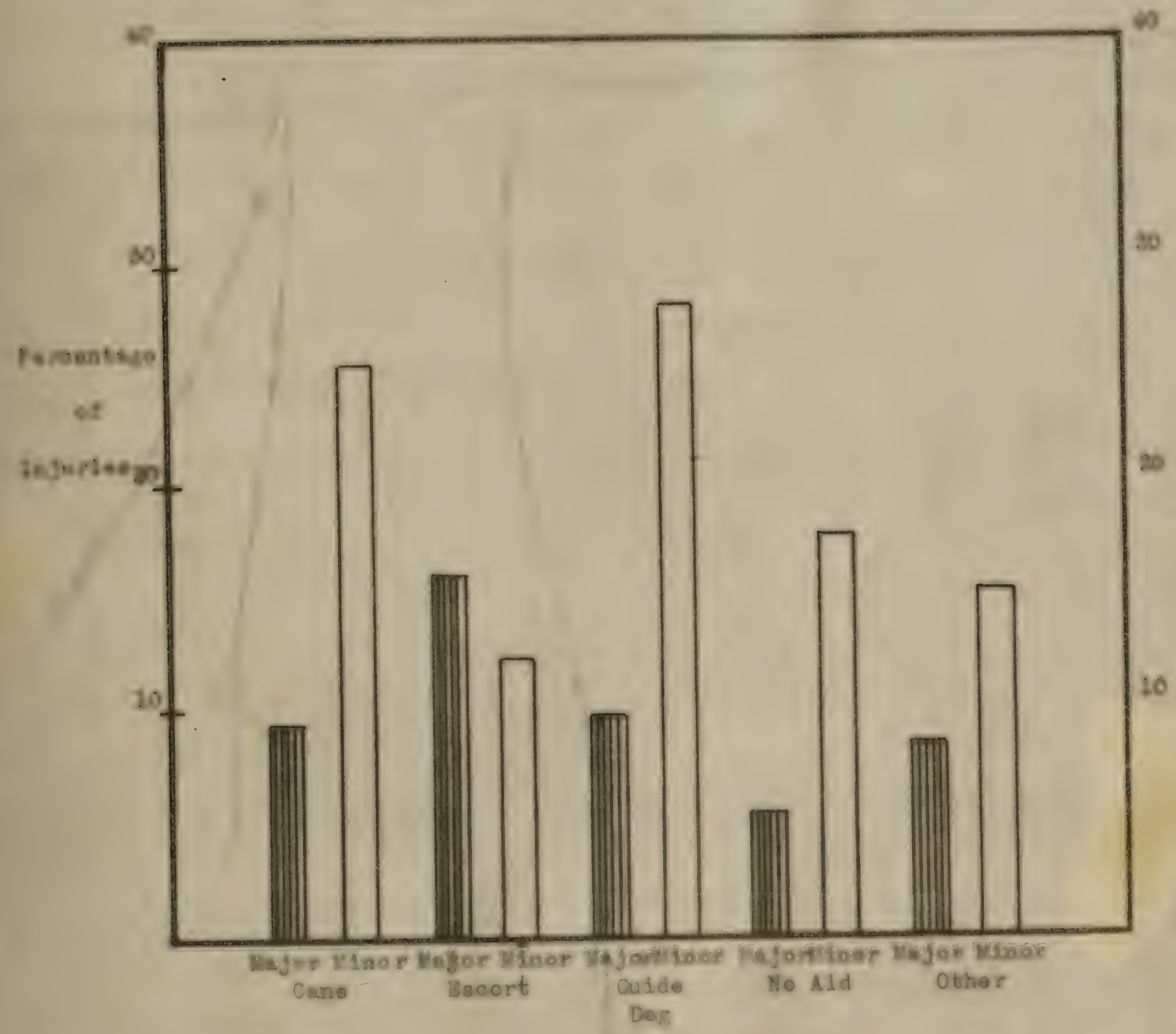


Table 17. Analysis of Blind Persons Carrying Life Insurance

Number of blind persons who have life insurance	146
Number who paid increased premiums	98
Number who stated amount of increased premiums paid	63
Number who did not pay increased premiums	17
Number who did not state amount of increased premiums paid	31
Number who have been refused life insurance	40
Number of blind persons with life insurance who have disabilities in addition to blindness	13
Total increased premiums per $1,000 paid by 63 persons responding	$369.46
Average increased premium paid per $1,000 by 63 blind persons	$5.86

Table 18. Blind Life Insurance Holders With Different Degrees of Blindness

	Good Object	Poor Object	Light	Total	Central
Persons With Insurance	16	19	36	66	9
Number in Study	65	69	94	161	43

Table 19. Bled Life Insurance Holders in Different Occupational Fields

	Workshop	Stand	Self-Employed	Industry	Professional
Persons With Insurance	11	20	26	29	49
Number in Study	46	69	84	94	95

TABLE 19. URBAN LIFE INFLUENCES BELIEVE IN CONSERVATIONAL PLACES

	Outdoor Sport	Hand Industry	Gain-Seeking Industry	Industry Preferment
Farming Will Improve Industry	44	40	50	49
Employ In Study	46	49	45	51

Fig.XV Persons Having Life Insurance with Distribution by Degree of Blindness
(Percentages Based upon Total Usable Responses)

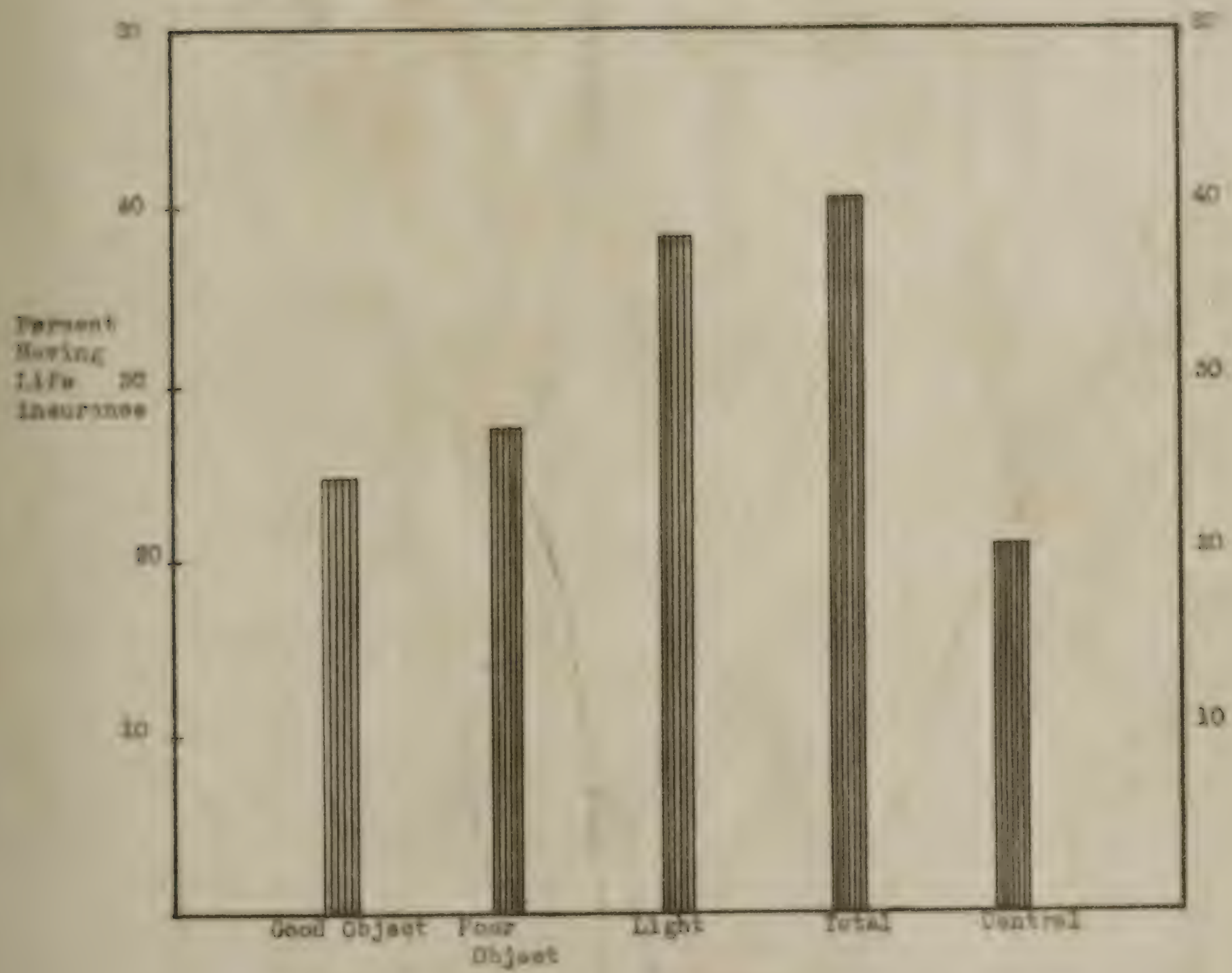


Fig. XVI Blind Persons Having Life Insurance with Distribution by Employing Establishments
(Percentages Based upon Total Usable Responses)

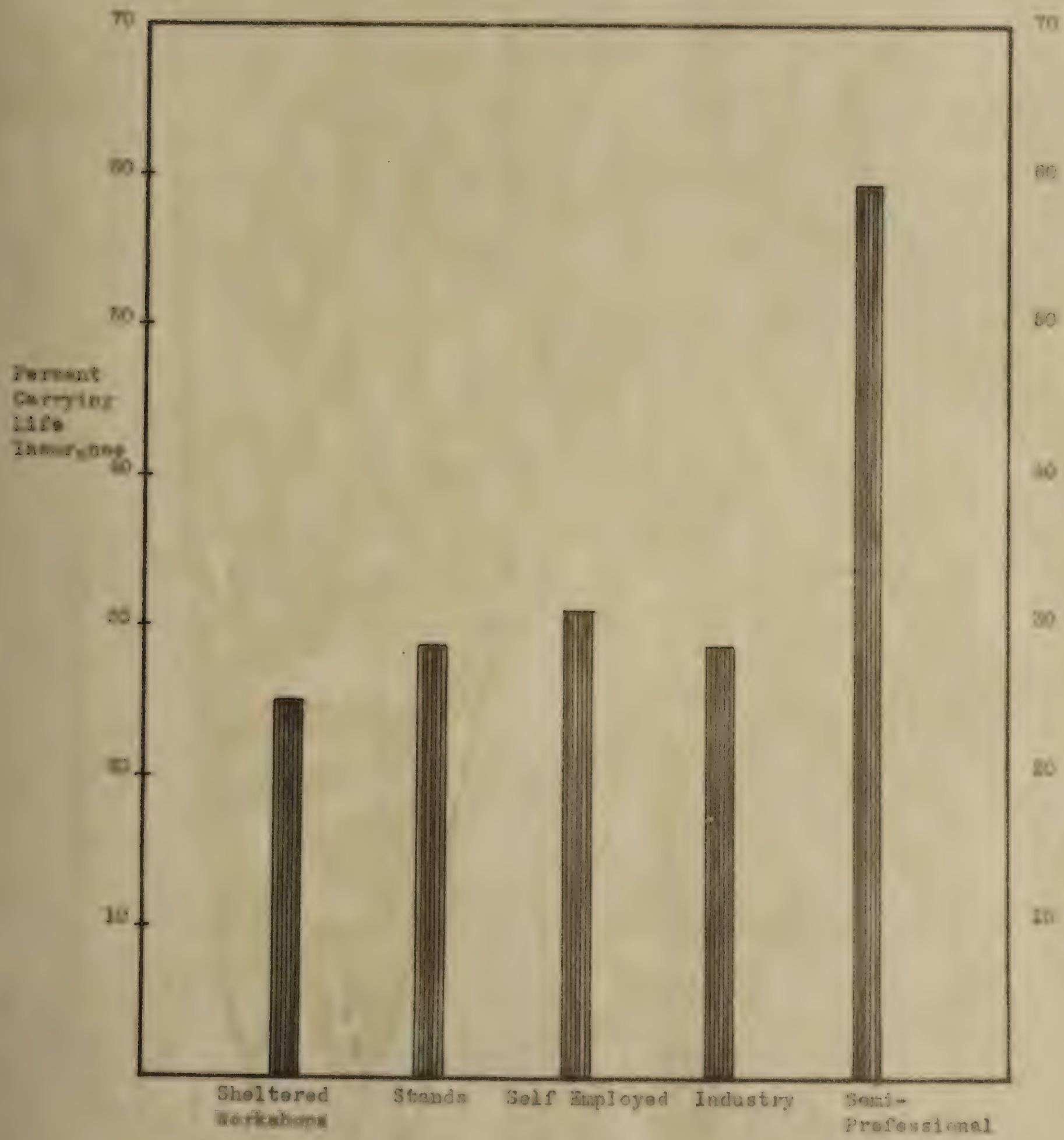


Table 20. Industrial Accidents Analyzed

Number of Persons Who Had Industrial Accidents	Number of Persons Who Received Compensation	Per Cent Industrial Accidents
15	9	2.95

Table 21. Length of Time Blind

Years Blind	1-10	11-20	21-30	31-40	41-50	50 Over	No Response
Total Persons	106	49	80	61	25	20	97
Injuries	28	39	25	8	7	5	12

Average time blind in study - 22.34 years

Fig. XVII Injuries Incurred by Adult Blind with Distribution by Number of Years Blind
(Percentage Based upon Total Usable Responses)

Table 22. Additional Disabilities or Disabling Conditions Besides Blindness

Number of persons with additional handicaps	40
Number of persons with additional handicaps who carry life insurance	13
Major injuries received by this group	1
Minor injuries received by this group	9
Total days lost from work because of sickness in last year worked	20
Average days lost from work per person because of sickness in last year worked	1/2

Table 22. Additional Disabilities or Disabling Conditions Besides Diabetes

Number of persons with additional handicaps	40
Number of persons with additional handicaps who carry life insurance	13
Major injuries received by this group	1
Minor injuries received by this group	3
Total days lost from work because of sickness in last year worked	80
Average days lost from work per person because of sickness in last year worked	4.5

CHAPTER IV

RESULTS, CONCLUSIONS, AND RECOMMENDATIONS FOR FURTHER STUDY

Introduction. A total of 243 persons who work with the blind were written to and were asked to cooperate in this study. These persons were heads of agencies for the blind, placement men for the blind, home teachers for the blind, etc., many of whomwere sighted, some blind. Of the 133 who responded, 65 actually cooperated. This number might appear small, but in many cases several letters were sent to the same agency, and one person was designated to assist with the study. There were 1,100 questionnaires sent out either individually or in bulk mailings. Of this number, 118 questionnaires were returned either for lack of proper address, or because some workers for the blind had requested more than they needed and had returned the surplus. This means that approximately 982 questionnaires reached the hands of the blind persons they were intended for. The questionnaires returned numbered 450, of which 12 had to be discarded because they were illegible or improperly filled out. This left 438 questionnaires which were actually tabulated for this study. Percentage-wise, it might be said that 43.58 per cent of the persons receiving the questionnaires filled them out properly and returned them.

Many people showed intense interest in this study, and many long letters of approval and suggestion were received. One example was a request to present this subject at a

national convention,[16] and another was an offer by an agency to consider the publication of this thesis.[17] It is interesting to note that 56 persons, on their own initiative, requested either an abstract of this study or a copy of the thesis. They will be sent an abstract of the thesis.

Questionnaires were filled out and returned from the following geographic areas: forty-two states in the United States, the District of Columbia, and three provinces of Canada. The states represented were the following: Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Minnesota, Mississippi, Missouri, Montana, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Iowa, Oklahoma, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, West Virginia, Wisconsin, Wyoming, and Nebraska. The provinces in Canada were Manitoba, British Columbia, and Ontario.

It should be noted here that of the 438 persons studied, only 116 suffered either major or minor injuries. This means that 26 per cent of the persons suffered major or minor injuries during the time they had worked as blind persons. The average length of time those studied worked as blind persons was 10.16 years. Total injuries received by the 438 persons was 131, or approximately 1 injury per four persons.

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[16] See Appendix J

[17] See Appendix A

SECTION 1

Analysis by Sex. The major and minor injuries were analyzed according to the sex of persons who suffered them. The percentage of women responding to the study who suffered injuries was 34.51 per cent. The per cent of men responding to the study who suffered injuries was 27.33 per cent.

The women had about 1½ minor injury to every major injury, and the men had about 2½ minor injuries to every major injury. The comparison of major and minor injuries in relation to sex was analyzed according to environment, as is evidenced by the graphs and tables in Chapter III. In the home and home surroundings the women suffered 7 times more major injuries than the men and about the same number of minor injuries as the men, or slightly less. In traveling, the major and minor injuries suffered by men and women were almost the same. At work, the men suffered 4 times as many major injuries as the women, and minor injuries were about the same.

Responses to the questionnaire were received from 325 men and 113 women, making a ratio of about 3 to 1.

It might be interesting to note here the number of individuals who had more than one injury. There were 11 men and women who listed more than one injury. There was never more than one major injury listed, but there were occasionally two minor injuries listed per person.

SECTION 2

Ages. It was not felt necessary or advisable to place the information concerning the ages in a graph form in Chapter III, so only a table was used. The conclusions derived from the table on ages were as follows: of the 438 persons in the study, 341 persons were between the ages of 26 and 55 years of age. This group can be broken down in more detail by stating that there were responses from 42 persons 25 years of age or under, 134 persons from 26 to 35 years of age, 115 persons between 36 and 45 years of age, 92 persons between 46 and 55, and 51 persons who were over 55 years of age.

The ratio of men in the different age groups is about the same as the ratio of women, although the majority of women responding were in the age group 36 to 55, and the majority of men responding were in the age group 26 to 45 years. The women had a much smaller percentage in the age group over 55.

The people who answered the questionnaire were, generally speaking, quite mature as far as age goes, and the study evidently represents a good cross-section of all adult age groups.

The average age for men is 39.18; the average age for women is 39.32. The youngest man is 18, and the youngest woman is 17. The oldest man is 76, and the oldest woman is 71.

SECTION 3

Degree of Blindness. Degree of blindness was divided into the following categories, with the number of responses in each indicated: good object perception, 65 persons; poor object perception, 69 persons; light perception, 94 persons; total blindness, 161 persons; and limited visual fields, 45 persons. In analyzing the number and types of injuries under each category of blindness, many interesting things were learned. Generally speaking, those with poor object perception and those with limited visual fields reported by far the most major and minor injuries. Those with good object perception, light perception, and total blindness reported the least injuries. Maybe this is because those with good object perception see well enough to avoid injuries and those with light perception and total blindness have no useful vision to be distorted and for this reason do not depend on their vision at all, but on more of their other senses. This possibly makes them more careful. Those with poor object perception probably misinterpret many things they see and as a result suffer injuries, and those with limited visual fields see such a small part of what they look at that they many times make incorrect interpretations of objects.

To go more into detail, the per cent of injuries according to degree of blindness was analyzed as to the environment where the injuries occured. In the home and home surroundings the per cent of persons suffering injuries in the different visual fields is as follows: limited fields, 32.40 per cent;

good object, 12.23 per cent; total blindness, 11.22 per cent; poor object, 10.00 per cent; light perception, 6.50 per cent. Both major and minor injuries have been added together for the conclusions, although it should be remembered that the minor injuries always exceed the major injuries.

It will be noted that in the above breakdown of injuries in the home and home surroundings there is a slight exception in the above generalizations. The percentage of persons with poor object perception suffering injuries is low. In traveling and at work the percentage with poor object perception will be noted to be high. A person with poor object perception knows his home and home surroundings better, we might assume.

In travel the degree of blindness in relation to the percentage suffering injuries is as follows: good object perception, 1.51 per cent; poor object perception, 15.95 per cent; light perception, 9.58 per cent; total blindness, 10.55 per cent; and limited visual fields, 11.61 per cent. Those with good object perception seem to be able to travel very well with by far the least number of injuries.

At work the percentage suffering injuries in the different visual fields is as follows: good object perception, 5.79 per cent; poor object perception, 10.12 per cent; light perception, 4.32 per cent; total blindness, 5.64 per cent; and limited visual fields, 9.12 per cent.

It might also be noted here that the blind have the largest percentage of injuries in the home and home surround-

ings, the second largest percentage while traveling, and the lowest number of injuries at work or on the job.

A comparison was also made between the partially blind and the totally blind. In other words, the totally blind were compared to all the other degrees of blindness combined. The following conclusions were reached. In the different environments the percentage of injuries suffered by both groups was as follows: (1) in the home and home surroundings--totally blind, 11.22; partially blind, 13.31 per cent; (2) in traveling--totally blind, 10.55 per cent; partially blind, 9.38 per cent; and (3) at work--totally blind, 5.64 per cent; partially blind, 6.49 per cent. These percentages would indicate that one group is about as safe as the other.

SECTION 4

Persons Receiving Sick Benefits. The number of people who responded that they had received some sick benefits was 33. Of this number, 27 were men and 6 were women. This means that 7.55 per cent of the persons studied received sick benefits.

This group was then broken down to show the percentage of persons receiving sick benefits under each degree of blindness: good object perception, 13.04 per cent; poor object perception, 8.69 per cent; light perception, 4.24 per cent; total blindness, 4.41 per cent; and limited visual fields, 16.27 per cent.

These 33 people were further analyzed as to their methods of travel. The percentage of persons receiving sick benefits under each mode of travel is shown as follows: use of no aid, 12.33 per cent; cane, 8.33 per cent; escort, 7.24 per cent; guide dog, 6.25 per cent; and other, 5 per cent.

Persons receiving sick benefits were further analyzed as to the number receiving injuries. Only 12 of the 33 received injuries.

The above information would indicate that there are comparatively few who received sick benefits. This indirectly helps to prove the safety of the blind.

SECTION 5

Years Independent Through Employment as a Blind Person. The number of years the blind studied have been independent through employment was set up into five categories. These categories are listed with the number of blind persons shown in each who responded: under 5 years, 130 persons; 6 to 10 years, 105 persons; 11 to 15 years, 47 persons; 16 to 20 years, 41 persons; over 20 years, 58 persons. These facts indicate that there was a good sampling from each category. If the concentration were in one or two of the categories, the study would not be as representative as it is now. The fact that most persons who answered this study had worked over five years indicates that they had ample time to receive injuries. If the majority had worked under five years, there would be considerable doubt.

There were 391 persons who responded as to the number of years they had been independent through employment as blind persons. These people, when analyzed, were found to have received 106 injuries, which are divided in the following way: 37 injuries were recorded by persons who worked under 5 years, 19 injuries for persons who worked from 6 to 10 years, 19 injuries for persons who worked 11 to 15 years, 6 injuries for persons who worked 16 to 20 years, and 25 injuries for persons employed over 20 years. If the number of injuries in each category is compared with the number of people in each category, it will be noted that injuries are always fewer than the number of persons involved and that

the people who worked over 20 years have had the most injuries.

The conclusions drawn in this section are rather general, but it is felt that they are important in helping one to understand the whole study. The cross-section sampling of years employed as blind persons is very diverse and adds to the validity of the study.

SECTION 6

Types of Employment. The types of employment the blind were engaged in were divided into the following five divisions: sheltered workshops, stands, self-employment, industry, and professional. (The last category includes the semi-professional.) Of those responding, there were 46 employed in sheltered workshops, 69 employed at stands, 84 in self-employment, 94 employed in industry, and 95 employed in semi-professional or professional jobs. Some persons stated that they were in school and some were not employed. This information was brought out under "Remarks" at the end of the questionnaire.

In analyzing the different groups, it was determined that the percentage of persons who received injuries in each occupational field was as follows: sheltered workshops, 21.74 per cent; stands, 18.84 per cent; self-employment, 26.53 per cent; industry, 21.27 per cent; and semi-professional and professional work, 45.23 per cent.

The above percentages are divided as to major and minor injuries on the graphs and charts in Chapter III. All that will be noted here concerning those statistics is that at stands and in sheltered workshops the percentage of major and minor injuries almost equaled each other, whereas in the last three occupational fields there were more than twice as many minor injuries as major. When the major and minor injuries are combined, the percentages of persons receiving injuries in the different occupational

groups were about the same with one exception. The percentage of injuries occurring in the semi-professional and professional group was, as noted above, twice that of any other single occupational group.

The above facts show that this study has a good representation of the blind in each occupational field listed.

Most of the semi-professional and professional people were employed in occupations such as rehabilitation counselor, home teacher, etc. This group probably had more varied experiences than any other single group, and this probably explains the higher percentage of injuries in this group.

Representative Jobs of the Blind Studied. Persons who were self-employed or engaged in occupations outside sheltered shops or at stands were asked to list and describe their jobs. The following is the list of jobs mentioned. Many of these jobs were listed by more than one person. This helps to show the diversity of occupations engaged in by the blind in the study.

Grocery and confectionary store manager and owner
Poultry farm owner and operator
Gift shop owner and manager
Musician (own band)
Magic tricks manufacturer
Office supply manager and owner
Shoe shop owner and manager
Tourist court owner and operator
Printing business owner and operator
Carpenter (makes yard furniture, self-employed)
Plumber
Insurance agent
Piano tuner
Osteopath
Writer
Lawyer

Newspaper route
Micro film operator
Feed packer
Masseuse
Manufacturer of cement blocks
Teacher (sighted schools and schools for blind)
Minister
Nest packer
Farmer
Physical therapist
Salesman
Nurses' aid
Radio repairman
Saw repair shop manager and operator
Assembler
Packer
Machine operator
Tart room technician
Employed by Braille Press
Bakery worker
Radio shop manager
Washer inspector
Laundry worker
United States Commissioner
Upholsterer
Garage mechanic
Civil Service Inspector
Information clerk
Senior Counselor (Boys Scout Camp)
Dock worker in ice plant
Cashier and manager of motion picture house
Janitor
Building stone quarry worker
Rehabilitation Counselor and Placement Specialist for Blind
Telephone Answering Service (surveys, wake-up, telephone soliciting)
Taxi dispatcher
Boarding house operator and manager
Dictaphone operator
Clerk-typist
Judge (City and County Courts)

SECTION 7

Years Worked for Present Organization as Blind Person.

In an effort to obtain some indication of the stability of the blind, the following analysis was made: There were 198 persons who had worked for their present organization under 5 years as blind persons, 82 persons from 6 to 10 years, 16 persons from 11 to 15 years, 11 persons from 16 to 20 years, and 11 persons over 20 years. Only 315 persons responded to this question.

The above figures surely show that there is stability among the blind, especially when it is remembered that the average age of the group in this study was 39 years.

SECTION 8

Days Lost From Work because of Illness. Persons were asked to state the number of days they had lost because of sickness in the last year, the last 5 years, the last 10 years, and the last 20 years of employment as blind persons. There were 248 persons who answered under the first year, 159 who answered in the 5 year period, 96 who answered in the 10 year period, and 146 in the 20 year period. There were 306 people who responded to this question. Many people responded in two or three categories. The average days lost per person during the four periods is shown on a graph in Chapter III. It would have been better if the last three categories had not been placed in the questionnaire, because many people stated the number of days they had lost in the last 5, 10, or 20 year period, and evidently felt that an answer in these last three categories would suffice. For example, if a person said he had lost 10 days in the past 10 year period, there was usually no response in the 1 year period. The number of days he actually lost in the last year he worked is unknown and has to be guessed at. If a person said he had lost no days in the 5, 10, or 20 year period, it was naturally assumed that he had lost no days in the last year of employment.

The number of days lost because of sickness per person was as follows: persons who filled out the 1 year category lost 3.20 days a year, persons who filled out the 5 year category lost 1.5 days per year, persons who filled out the

10 year category lost 1.8 days per year, and persons who filled out the 20 year category lost .62 days per year.

The 248 persons who lost an average of 5.20 days per year because of illness will be considered further. It has been stated previously that the last three categories are not too factual, but rather revealing and interesting. Of the 248 persons who responded in the first year, 149 stated that they had lost no time because of illness in the past year. This leaves 99 persons who actually lost 798 days in the past year, and 13 persons lost 449 of those days. This means that 86 persons lost 349 days, or an average of 1.04 days. If we leave out the 13 persons who lost over half the days lost because of illness, the average days lost for the past year was 1.04 days. It must be remembered that the many persons who indicated that they had lost, for example, 5 days in 20 years, but who did not fill out the days lost in the last year period, were not used, as it would be guesswork to assume how many of these 5 days had been lost in the last year worked. It was felt that in computing days lost for the last year worked, if any estimate were made from the 5 year, 10 year, or 20 year period information as to the number of days lost in the last year of employment, it would be purely guesswork and would tend to make the study invalid. It is also realized that to leave out these 13 people who lost over half the time, will also invalidate the study to a certain extent.

The 1 year category is all that should have been used

in the questionnaire, and more factual information would have been obtained. However, it is felt that the results obtained indicate very strongly that the days lost because of sickness per blind person per year is very small. Generally speaking, it could be said that a blind person lost from 1 to 2 days a year because of sickness, and it might be less if a more extensive study were conducted.

The persons in the different occupational groups were also analyzed in order to find out the percentage of persons who lost time in the last year employed because of illness in each occupational group. The results are as follows: in sheltered workshops, 47.56 per cent; at stands, 50 per cent; in self-employment, 29.72 per cent; in industry, 24.45 per cent; and in semi-professional and professional work, 66.66 per cent.

The percentage of persons who lost time in the last year of employment because of illness was also analyzed as to age group. The following results were brought out: from 17 to 25 years of age, 29.03 per cent lost time because of sickness, from 26 to 35 years of age, 36.48 per cent lost time because of sickness; from 36 to 45 years of age, 37.66 per cent lost time because of sickness; from 46 to 55 years of age, 45.23 per cent lost time because of sickness; and over 55 years of age, 30.76 per cent lost time because of sickness. This merely shows in what age group the greatest number of persons lost time because of illness.

The only comparable study which indicated days lost from work because of illness in the general population is as follows. In 1943 the Maryland State Planning Commission made a quantitative study of Maryland industries in order to find out services performed by Maryland industries for the benefit of their employees. Part of this study brought out the average days lost per man per year. Generally, when people lose time, it is because of illness, although not always. The average number of days lost per man per year by industry groups is as follows: mining and agriculture, 4.6 days; construction, 1 day; manufacturing, 4.3; transportation, 10.9; trade, 3.9; finance, 4.30; service, 4.60; non-distributable, 6.8. The average days lost per man per year for all industries was 5.8. This is much higher than the average days lost from work by the blind person. In fact, it is over twice as large as the average arrived at for the blind.

The only comparable study which indicated days lost from work because of illness in the general population is as follows. In 1949 the Maryland State Planning Commission made a quantitative study of Maryland industries in order to find out services performed by Maryland industries for the benefit of State employment. Part of this study brought out the average days lost per man per year. Generally, when people lose time, it is because of illness, although not always. The average number of days lost per man per year by industry groups is as follows: mining and agriculture, 4.6 days; construction, 1 day; manufacturing, 4.8; transportation, 10.3; trade, 3.7; finance, 4.50; service, 4.8; and administrative, 4.4. The average days lost per man per year for all industries was 5.4. This is much higher than the average days lost from work by the blind persons. In fact, it is over twice as large as the average arrived at for the blind.

SECTION 9

Different Methods of Travel Used by Blind. The methods by which the blind persons travel were analyzed in several ways. The results were as follows: of those who responded, 120 reported that they traveled with a cane, 64 traveled with escort, 32 persons traveled with guide dogs, 113 persons traveled with no aid, and 40 persons said they traveled by some other way and mentioned taxi, etc.

The methods of travel were then analyzed in order to find out under which category the greatest percentage of persons lost time because of illness in the last year. The results were as follows: 35.52 per cent of persons who traveled with a cane lost time because of illness in the last year of employment, 21.87 per cent of persons who traveled with escort lost time because of illness, 42.10 per cent of persons who traveled with guide dogs lost time because of illness, 33.77 per cent of persons who traveled with no aid lost time because of illness, and 30 per cent of persons who stated they used some other aid lost time because of illness. The percentages do not differ too greatly, and it can be generally assumed that the method of travel has little, if no, relationship to the days lost because of illness.

More people who travel with guide dogs lost time because of illness than persons who travel with escorts, but it is felt that a more detailed study should be made to derive the implications.

The different methods of travel were further analyzed, and the percentages of major and minor injuries sustained under each type of travel are shown: 9.16 per cent of persons who traveled with a cane received major injuries and 25.83 per cent received minor injuries, or a total of 34.99 per cent of all persons who used a cane received some type of injury; 15.62 per cent of persons who traveled with escorts received major injuries and 12.60 per cent received minor injuries, or a total of 28.22 per cent of blind persons who traveled with escorts received some type of injury; 9.37 per cent of persons who traveled with guide dogs received major injuries and 28.12 per cent received minor injuries, or a total of 37.49 per cent of all persons who traveled with guide dogs received some type of injury; 5.3 per cent of persons who used no aid received major injuries and 17.69 per cent received minor injuries, or a total of 22.99 per cent of all persons who used no aid received some type of injury; 7.5 per cent of all persons who listed other means of travel received major injuries and 15 per cent received minor injuries, or a total of 22.5 per cent of all persons who listed other means of travel received some type of injury. It will be noted that the above information does not indicate where the injury occurred, but only how the person who received the injury traveled. Those who traveled with escorts seemed to have by far the greatest number of major injuries. Yet when the major and minor injuries are added together in all categories, it seems that one mode of

travel is about as safe as another for the blind person.

<u>Life Insurance Benefits</u>. The results obtained from the insurance question for an fulfiller of the LIS benefits is too small. The viewed reviews a great deal and also interviews 20 of the persons having been interviewed that they said an individual problem, but only 3 persons stated the amount of insurance they paid for $1,000.00. The insurance cheap 63 persons paid per $1,000.00 average $20.15. Then this figure was divided by the 63 persons paying it, it was found that an average increase of $1.00 on each $1,000.00 worth of life insurance per person per month. This appears to be an appropriate charge, which cannot be considered as life insurance company. It might be noted here that usually persons unwilling to not pledge insurance primarily for reasons pertaining the lack of any state legislated provision. Of the 113 persons having insurance, 17 stated that they did pay an increased premium, and 31 persons paid a variable rate of all. This has reflected feeling that even at those 17 persons paid an increased premium and 29 only some 15% for disability, privileges were never from the blind persons. Six "yes" were interviewed, as to whether the insurance from a small company which discount which equalled those of increased rates by larger companies.

Many have only 1% increase was had some other financial conditions in addition to utilization plus increased life insurance, actually a few of the increased premiums charged the right could have been straight premiums if the additional

SECTION 10

Life Insurance Analyzed. The results obtained from the insurance question are as follows: of the 438 persons in the study, 146 blind persons stated that they had life insurance; 98 of the persons having life insurance stated that they paid an increased premium, but only 63 persons stated the amount of increase they paid per $1,000.00. The increases these 63 persons paid per $1,000.00 totaled $369.46. When this figure was divided by the 63 persons paying it, it was found that an average increase of $5.86 on each $1,000.00 worth of life insurance per person was being paid. This appears to be an excessive charge, which cannot be substantiated by life insurance companies. It might be noted here that casualty insurance companies do not charge increased premiums to factories employing the blind or any other handicapped persons. Of the 146 persons having insurance, 17 stated that they did not pay an increased premium, and 31 persons gave no information at all. It is the author's feeling that most of these 17 persons paid an increased premium and did not know it. For example, privileges were taken from the blind person, his "age" was increased, or he obtained his insurance from a small company whose standard rates equalled those of increased rates of larger companies.

There were only 13 persons who had some other disabling condition in addition to blindness who purchased life insurance, so only a few of the increased premiums charged the blind could have been charged because of the additional

known disabilities.

The persons having insurance were further analyzed as to their degrees of blindness. The results were as follows: 24.60 per cent of persons having life insurance had good object perception, 27.54 per cent of persons having life insurance had poor object perception, 38.29 per cent of persons who had life insurance had light perception, 40.39 per cent of persons who had life insurance were totally blind, and 20.93 per cent of persons who had life insurance had central vision.

These results only seem to indicate that no matter what type of blindness or degree of blindness a person has, he can still buy insurance if he is willing to pay an increased premium.

The persons who had life insurance were then analysed as to the occupations they were engaged in, and the results were as follows: 25 per cent of persons holding insurance were in sheltered workshops, 28.82 per cent of persons who had life insurance worked at stands, 30.96 per cent of persons who had life insurance were self-employed, 28.72 per cent of persons who had life insurance were in industry, and 51.57 per cent of persons who had life insurance were either in semi-professional or professional occupations. It seems that the percentage of persons in the semi-professional and professional group is quite high when compared to the other groups; this is probably because of their higher income bracket. This information shows that the blind want

insurance regardless of what occupation they are engaged in and that they buy it regardless of occupation and increased premium. This study reveals that 33.33 per cent of persons studied have life insurance. This percentage is high enough to warrant an investigation and further study on the matter of increased insurance rates for the blind. The records of the actuarial companies do not reveal any studies that conclusively point out that the blind should be charged increased premiums. The studies made in the past on the blind have not taken into consideration whether or not the blind had additional disabling conditions. All persons with the common disability of blindness were lumped together. Other facts should have been taken into consideration. The life insurance companies have misinterpreted these studies and have been unjustly overcharging the blind, who, generally speaking, are in very low salary brackets.

It should be noted that this study deals only with those who have been employed or are employed at present as blind persons. These conclusions on insurance are not meant to apply to the many blind who have never worked as blind persons. Whether or not they should be charged an increased premium for life insurance is material for another study.

Below is a list of companies who charged the blind in this study increased premiums:

New York Life Insurance Company
Lincoln Mutual Insurance Company

Provident Life Insurance Company
Great Southern Life Insurance Company
Aetna
Ameri can National
Lincoln Liberty
Prudential
Union National
Occidental
Equitable (New York) Life
Commercial Casualty
Lincoln National
North American Baptist
Peoples Insurance Company
Security Benefit Company
Woodmen of the World
Equitable Assurance
Metropolitan Life
Jefferson Stand Life Insurance
Phoenix Mutual
Atlantic Life Insurance
Fidelity Mutual
Massachusetts Mutual Life
Southland Life Insurance
Mutual of New York
American Hospital Insurance Company
Vermont National Life
Mutual Norman of America
Sun Life Insurance Company (Canada)
Pacific National
Acacia
Continental Life
United Life
Home Life
Connecticut Mutual

SECTION 11

Industrial Accidents Analyzed. The number of blind persons who had industrial accidents while being industrially blind is very small. Thirteen persons stated that they had industrial accidents and 9 persons stated that they received some compensation for such accidents.

There were 438 persons in the study, and this means that 2.9 per cent suffered industrial accidents. This is another indication of the safety of the blind.

SECTION 12

Length of Time Blind. The length of time that persons have been industrially blind was divided into ten-year intervals. The percentage of persons who received major or minor injuries in each time interval was then figured, and the results were as follows: of the persons who had been blind 10 years or less, 26 per cent had received injuries while working and living as blind persons; of those who had been blind 11 to 20 years, 79 per cent received injuries; of those who had been blind 21 to 30 years, 31 per cent had received injuries; of those who had been blind 31 to 40 years, 13 per cent had received injuries; of those who had been blind 41 to 50 years, 28 per cent had received injuries; and of those who had been blind over 50 years, 25 per cent had received injuries. It is difficult to explain these figures. The fact that the highest number of injuries occurs in the group of persons who have been blind from 11 to 20 years means very little, because many of them were blinded later in life and may have been working from 11 to 20 years.

All that the above results seem to indicate objectively is that injuries occur among all the blind regardless of length of time they have been blind, and it is felt that the percentage should be about the same in all time intervals.

In the second interval, which deals with people who have been blind from 11 to 20 years, 79 per cent received injuries. This percentage is probably very high for some reason or

other.

It is felt that the years a person has been blind does not influence the number of injuries he receives. A person who is newly blind is more cautious, but suffers injuries because of the newness of his situation; whereas a person who has been blind longer does more things and is less cautious and so incurs about the same number of injuries.

SECTION 13

Additional Disabilities or Disabling Conditions Besides Blindness. Of the 438 persons analyzed, 40 (or 9.10 per cent) had disabilities or disabling conditions in addition to their blindness. This group of persons was studied to see what effect, if any, they might have on the study. Many persons would reason that the more disabilities a person has, the more injuries he would receive. Following are some of the results obtained: 25 per cent of this group suffered either a major or minor injury; only 2.50 per cent had ever received a major injury.

In considering days lost from work because of illness, this group of 40 persons during the last year of employment lost .50 day per person.

Thirteen of these 40 persons had life insurance.

From the above facts, we can say that this group did not increase any percentages given in the study. The days lost because of sickness and the number of injuries sustained were smaller than the study indicated for the group as a whole. Persons with additional disabilities might be said to be more careful than those with just blindness alone. Of the 40 persons, 34 were men and 6 were women. There were almost three times as many men in the study as women.

A list of the additional disabilities or disabling conditions is given below. Only one person had more than one disability listed in addition to blindness. Four per-

sons stated that they had an additional disability, but did not describe it. The most common additional disability seemed to be deafness, and it was listed 11 times.

Loss of hearing, 1 ear
Loss of right index finger, partial use of right hand
Deafness
Arthritis
Hernia
Paralyzed leg (polio)
"Trick knee"
Lack of coordination in foot
Loss of 3 fingers, left hand
High blood pressure
Ulcer
Neurosis
Deformed left leg and right arm (infantile paralysis)
Polycythanism
Coronary thrombosis
Speech impairment
Leg amputation
Sinus
Flat feet
Head injury (craniotomy)
Allergy
Chopped off rope-drum during operation; ankle and spine
Fell out of boom on hike, pin hold
Slipped on log, broke hip
Hand and leg cut by saw on farm
Shot bought between platform and trailer, ankle crushed
Vertigo, broken arm
Cut off two fingers while splitting wood
Bone chipped on hand, masked fingers

In bowling:

Fall against railing, very hemorrhage
Struck by ball, 2 blood spots
Hit by car, crushed back
Stepped into hole, wrenched knee
Fall against wheel rim, injured rib and knee
Fell from a high platform, compound fracture
Fell, hurt knee
Walked into open manhole, hobbled
Hack kill building, broke nose
Slipped on deck
Fell from brain platform while joined by machine manufacturer, sprained ankle
Broke ankle while bowling too

Representative Injuries Suffered by the Blind Studied.

It was felt that a brief description of the different types of injuries incurred by the blind persons might be interesting. They are representative of all injuries occurring in the home, in traveling, and while on the job. They are as follows:

In the home and home surroundings:

Slipped on bathroom floor, fell, broke tooth
Fell over chair, cut chin
Kissed stop, sprained back
Came west into hole, fell, sprained ankle
Fell out of bed, broke arm
Fell over cedar chest, skinned leg
Opened door at head of stairs, fell, broke wrist
Hand caught in -ix Buster, broke fingers
Got into road during snowstorm, hit by car
Tripped over tricycle, hurt back
Caught ball, sprained finger
Bumped into post, lost tooth
Stumbled on broken pavement, broke knee
Stepped off curb into drain, sprained ankle and wrist
Fell out of door on hoe, cut hand
Slipped on ice, broke hand
Hand and leg cut by hoe on farm
Foot caught between platform and train, ankle wrenched
Wrestling, broke arm
Cut off two fingers while splitting post
Door closed on hand, mashed fingers

In traveling:

Fell against building, eye hemorrhage
Struck by bus, 2 black eyes
Hit by car, sprained back
Stepped into hole, wrenched knee
Fell against street car, skinned shin leg bone
Fell from 4 feet platform, sprained elbow
Fell, hurt knee
Walked into open manhole, bruised
Ran into building, broke nose
Bitten by dog
Fell from train platform while guided by sighted conductor, sprained ankle
Broke ankle while boarding bus

Hand caught in door closed by sighted woman, mashed fingers
Bumped by car backing out of garage, sprained ankle
Tripped on broken step, fell, broke wrist
Fell over stone wall, sprained ankle
Fell down steps with sighted guide, sprained back
Received back and skull fracture while riding in car which was in collision

On the job:

Scalded by another man's coffee as he walked past
Elevator shaft left open, broke leg
Careless use of drill press, cut hand
Cut from broken glass
Cut tendon on sharp edge of iron while loading scrap iron
Chip of wood flew, hit hand, caused infection
Trailer hitch broke, piano fell over, broke pelvis
Walked on rough ground, sprained ankle
Fell over chicken water feeders, sprained ankle
Burned by infra-red lamp while being treated
Fell from platform, broke collarbone

Recommendations for Further Study.

1. A comparative study could be made by obtaining identical information from sighted people as to general information, injuries in the home and home surroundings, in traveling, and at work.

2. A second mailing of the questionnaires to the blind could be effected in order to see if the results obtained from the second mailing would correspond with the results obtained from the first mailing, which constitutes this thesis.

3. The blind in this study are working in many diversified jobs, and it may be interesting to investigate these jobs in more detail so that more would be known concerning the job opportunities available to the blind.

4. The actuarial companies who provide data for the life insurance companies could make a more detailed study on the safety of the blind to try to obtain more valid information on which the insurance companies could base their rates.

5. A more detailed study on sick benefits and industrial accidents could be made to bring out the causes or reasons for sick benefits or accidents, the payments received, the cost of insurance, and eligibility.

6. A further study could be made on the days the blind have lost from work because of sickness in the last year of employment. The 5, 10, and 20 year periods should be omitted because when they are put in, many persons fill out the days they lost because of sickness in the 20 year period and neglect to fill out the days lost during the 1 year period. Most people would be guessing on the number of days lost because of sickness beyond a period of one year.

7. A further study could be made on the major injuries which the blind have incurred in the last year of employment. The results could then be compared with national figures or statistics available on the general population.

BIBLIOGRAPHY

<u>Accident Facts for 1950</u>. Chicago: National Safety Council, 1951, 76 pp.

<u>Medical Impairment Study</u>. Chicago: Society of Actuaries, 1929, 68 pp.

APPENDIX A

AMERICAN FOUNDATION FOR THE BLIND, INC.

15 East 16th Street - New York 11, N. Y.

April 17, 1951

Mr. E. Smith Shawway
Rehabilitation Counselor
Division of Vocational Rehabilitation
District Office
2 West Redwood Street
Baltimore, 1, Maryland

Dear Smitty:

This is just a short note to confirm the telephone conversation which Mr. Barnett and I had with you last Thursday. As Mr. Barnett indicated, the American Foundation for the Blind will be very much interested in the results of this questionnaire and we hope that you will send us the completed material so that we may consider it for possible publication.

We hope that you and your family are making plans to be at the Boston Convention. From all we hear, it is going to be the biggest one ever.

With all good wishes, I am

Yours very sincerely,

Esther F. Gruber
Assistant Director

EFG:slr

APPENDIX B

HOW SAFE ARE THE BLIND?

This questionnaire, as the cover letter states, has been prepared to find out how safe the blind are on the job, on the streets, and in the home. Please fill it out accurately and return before May 11, 1951 which is the dead line. It is hoped this information will be of service to the blind in the future. Discuss only that time in which you have been working, traveling and living at home, as an industrially blind person. This study is being conducted through out the United States and Canada.

Thank you.

SECTION A

GENERAL INFORMATION

1. Sex: .....Male.....Female

2. Age: .....(number of years)

3. Degree of blindness: (please check)
   a. ..... Good object perception
   b. ..... Poor object perception
   c. ..... Light perception only
   d. ..... Totally blind
   e. ..... Gun barrel or limited visual fields of twenty degrees or less

4. As an industrially blind worker, have you ever received hospital or any type of sick benefits? (please check) .....Yes.....No

5. Number of years in your life time that you have been independent through self employment or other work as an industrially blind person (please check)
   .....Less than one;

.....1 yr.;	.....5 yrs;	..... 9 yrs;	.....13 yrs;
.....2 yrs;	.....6 yrs;	.....10 yrs;	.....14 yrs;
.....3 yrs;	.....7 yrs;	.....11 yrs;	.....15 yrs;
.....4 yrs;	.....8 yrs;	.....12 yrs;	.....More than 15 yrs.

   (please insert number of years)

6. If employed at present, check proper category below:
   a. ..... Workshop for the Blind or other sheltered workshop
   b. ..... Vending Stand Program
   c. ..... Self-employed (if you check this one, name and describe job in space below)
   .....
   .....
   .....

   d. .....Work in outside industry or in any other job not described above (if you check this one, name and describe job in space below)
   .....
   .....
   .....

7. If you are employed at the present time please check the number of years you have been with the present organization as an industrially blind employee.

..... 1 yr;	.....4 yrs;	.....7 yrs;	.....10 yrs;	.....13 yrs;	.....16 yrs;
..... 2 yrs;	.....5 yrs;	.....8 yrs;	.....11 yrs;	.....14 yrs;	.....17 yrs;
..... 3 yrs;	.....6 yrs;	.....9 yrs;	.....12 yrs;	.....15 yrs;	.....18 yrs;
.....19 yrs;	.....20 yrs;	.....more than 20 yrs. please insert number			

8. During my last period of employment as an industrially blind person (regardless of when it was) I lost due to illness:
   a. In the last 12 month period .....days
   b. In the last 5 year period .....days
   c. In the last 10 year period .....days
   d. In the last 20 year period .....days

9. In traveling to work, etc. I usually travel with the aid of the following: (please check)

a. .....Cane
b. .....Escort
c. .....Trained dog
d. .....With use of no aid
e. .....Other

10. Have you purchased life insurance since onset of blindness? (please check)

.....Yes.....No

a. If above answer is "Yes", did you pay an increased premium because of being industrially blind? (please check)

.....Yes
1-How great an increase per $1,000.....
2-Name of Company.....
.....No

11. As an industrially blind worker, have you ever had an industrial accident? (please check)

.....Yes.....No

a. If above answer is "Yes", did you receive industrial accident compensation for such injury or injuries? (please check)

.....Yes.....No

12. Length of time you have been industrially blind (please check)

.....Less than 1 yr;	.....5 yrs;	.....10 yrs;	.....15 yrs;
..... 1 yr;	.....6 yrs;	.....11 yrs;	.....16 yrs;
..... 2 yrs;	.....7 yrs;	.....12 yrs;	.....17 yrs;
..... 3 yrs;	.....8 yrs;	.....13 yrs;	.....18 yrs;
..... 4 yrs.	.....9 yrs;	.....14 yrs;	.....19 yrs;
.....20 yrs;	.....over 20 yrs. (please insert number of years)		

13. In addition to being industrially blind do you have any other disability or disabling condition. (please check)

.....Yes.....No

a. If the above answer is yes please name and describe below.
1.....
2.....

Below are the definitions of major and minor injuries which you should be familiar with before proceeding to Section II.

A major injury is one that compels you to miss more than one day's work. For example - broken leg, mashed hand, etc.

A minor injury is one that compels you to loose one day or less from your work. Examples; a slightly sprained ankle, a cut, or a bruise. Please do not list all the little bumps that we blind make daily and which might cause us slight distress for a few minutes.

SECTION B
ACCIDENTS IN OR ABOUT THE HOME

1. Have you ever had a major injury or injuries in your home as a blind person? (please check)

.....Yes.....No

a. If above answer is "Yes", please list and describe below the type of injury or injuries sustained and the cause for each.

1.....
2.....
3.....

2. Have you ever had a minor injury or injuries in your home as a blind person? (please check)

.....Yes.....No

a. If above answer is "Yes"", please list and describe below the type of injury or injuries sustained and the cause for each.

1.....
2.....
3.....

3. Have you ever had a major injury or injuries while playing or working on the grounds surrounding your living quarters? (please check)

.....Yes.....No

a. If above answer is "Yes" please list and describe below the type of injury or injuries sustained and the cause for each.

1.....
2.....
3.....

4. Have you ever had a minor injury or injuries while playing or working on the grounds surrounding your living quarters? (please check)

.....Yes.....No

a. If the above answer is "Yes", please list and describe the type of injury or injuries sustained and the cause of each.

1.....
2.....
3.....

SECTION C
ACCIDENTS INCURRED WHILE TRAVELING

1. Have you ever received a major injury or injuries while traveling as a blind person? (please check)

.....Yes.....No

a. If above answer is "Yes", please list and describe below the type of injury or injuries sustained and the cause for each.

1.....
2.....

2. Have you ever received a minor injury or injuries while traveling as a blind person? (please check)

.....Yes.....No

a. If above answer is "Yes", please list and describe below the type of injury or injuries sustained and the cause for each.

1.....
2.....
3.....

SECTION D

ACCIDENTS INCURRED WHILE ON THE JOB

1. Have you ever received a major injury or injuries while working on the job as a blind person? (please check)

.....Yes.....No

a. If above answer is "Yes", please list below the type of injury or injuries sustained and the cause for each.

1.....
2.....
3.....

2. Have you ever received a minor injury or injuries while working on the job as a blind person? (please check)

.....Yes.....No

a. If above answer is "Yes", please list below the type of injury or injuries sustained and the cause for each.

1.....
2.....
3.....

Please write below any comments or requests you have concerning this study. I shall greatly appreciate them.

.....
Signature

.....
Address

If possible please list below the names and addresses of two sighted people whom you feel would be willing to answer a similar questionnaire. It is not absolutely necessary but preferrable that these people be in work some what similiar to your own, and also that these people be in your approximate age group. Thank you.

1.....
2.....

APPENDIX C

AMERICAN FOUNDATION FOR THE BLIND, INC.
15 West 16th Street - New York 11, N. Y.

October 30, 1950

Mr. H. Smith Shumway
Rehabilitation Counselor
District Office
Vocational Rehabilitation
1101 Mathieson Building
Baltimore 2, Maryland

Dear Smitty:

We are delighted to have your letter of October 26 in which you indicate that you are ready to select subject matter for your thesis. Congratulations to you on this progress.

Early this year the Office of Vocational Rehabilitation released a booklet entitled "Bibliography of Unpublished Research on the Blind." This bibliography is extremely valuable because of its comprehensiveness because nothing like this has ever been available before. However, the research included is simply identified by subject matter, college, availability, etc.; it does not carry a critical review of the studies.

The Foundation Library will be pleased to make available to you additional material on research in the field of work for the blind which has been carried on in the past several years.

We are writing directly to Mr. Shortley to ask him to send you a copy of the Bibliography I mentioned above. We trust that this will be helpful to you in your work.

With every good wish to you and your family, I am

Yours very sincerely,

Kathern F. Gruber, Director

KFG:slr

2. Have you ever received a minor injury or injuries while traveling as a blind person? (please check)

.....Yes.....No

a. If above answer is "Yes", please list and describe below the type of injury or injuries sustained and the cause for each.

1. .....
2. .....
3. .....

ACCIDENTS INCURRED WHILE ON THE JOB

1. Have you ever received a major injury or injuries while working as a blind person? (please check)

.....Yes

a. If above answer is "Yes", please list below the type of injury or injuries sustained and the cause for each.

1. .....
2. .....
3. .....

2. Have you ever received a minor injury or injuries while working as a blind person? (please check)

a. If above answer is "Yes", please list and describe below the type of injury or injuries sustained and the cause for each.

1. .....
2. .....
3. .....

Please write below any comments or remarks you may consider pertinent to this study. I would greatly appreciate your cooperation.

Signature

Address

If possible please list below the names and addresses of two sighted people whom you feel would be willing to answer a similar questionnaire. It is not absolutely necessary but preferrable that these people be in work some what similiar to your own, also that these people be your approximate age group. Thank you.

1. .....

APPENDIX D

2505 Wetherburn Road
Baltimore 9, Maryland
April 21, 1951

Dear Friend:

I have prepared and enclosed a questionnaire which will aid me in a study I am making on the subject entitled "How Safe Are The Blind". Your name has been highly recommended to me as a person well-qualified to fill out the enclosed questionnaire. This questionnaire should not take over twenty minutes to answer even though it appears long. It will be sent out to hundreds of blind individuals throughout the United States and Canada and your prompt action in filling it out and returning it before May 11, in the enclosed, self-addressed, stamped envelope will be greatly appreciated. I promise you that the information you give me will be kept strictly confidential, and that only the statistical results will be used for the study.

It is hoped that the results of this questionnaire will prove to be enlightening to many on just "How Safe Are The Blind" in the home, on the streets, and on the job.

I would like to thank you for any help you give me in filling out and returning this questionnaire. If you ever desire to know more concerning this study, please do not hesitate to contact me.

Very truly yours,

H. Smith Shumway
Rehabilitation Counselor
for the Blind

APPENDIX E

SOCIAL SECURITY AGENCY

Office of Vocational Rehabilitation

Washington 25, D.C.

November 30, 1950

Mr. H. Smith Shumway
Rehabilitation Counselor
Division of Vocational Rehabilitation
1101 Mathieson Bldg.
Baltimore, 2, Maryland

Dear Mr. Shumway:

I was glad to have your letter of October 19, 1950, and to know about the new addition to your family. Congratulations.

We have no published studies of the relative safety records of blind workers as compared with sighted workers. The best information we have are the statements made by different large organizations based on their studies of handicapped workers in general. One such study made by the Western Electric Company concluded that handicapped workers, or workers having had one accident, are seven and a half per cent safer than those who have not had an accident or are not handicapped. You are aware, of course, that Casualty Insurance Companies do not differentiate between blind and sighted workers in their premium cost. We all know that they would do so if there was a greater risk in the employment of blind persons.

At one time the Employment Division of the Canadian National Institute for the Blind made a statement that for a period of thirteen years, during which eight hundred blind persons had been placed in industrial employment, not a one of these workers sustained a single loss-time accident.

A number of years ago, Mr. Clunk sent letters to all rehabilitation agencies doing work for the blind in the United States, and asked them to report any loss-time accidents to blind persons on industrial jobs. This inquiry failed to uncover any such accident. When questioned by

employers, we explained that blind persons properly placed in industrial jobs know that their situation is more critical than that of sighted workers in respect to accidents and, therefore, are more careful to maintain a good safety record so that an accident to a blind person will not serve as a bar to further employment of the blind. We also suggest to employers that because of the State Agencies services in assisting with the selection of jobs and the providing of suitable training for the blind workers, a much better match of men and jobs can be made and safety patterns can be more carefully worked out. Thus the blind worker really starts out under more favorable conditions of introduction to--and continuation on the job--than would be the case with the average sighted worker.

You did not give me any information concerning your college major or other subjects which you have taken, thus I find it difficult to make suggestions as to studies which you might undertake. However, you may wish to consider the following:

1. The opportunities for the employment of blind persons in the professions.

2. The blind in the teaching profession and the possibilities for broadening opportunities in this field.

3. Educational and other qualifications characteristic of successful industrial employment counselors for the blind.

I concur in your opinion that a list of jobs which could be done by blind persons has very little real value. No matter how long we made the list, it would still be incomplete and instead of stimulating the imagination of employment counselors, it would have a tendency to limit the employment of blind persons to the specific jobs listed. Therefore, we have never prepared a list of jobs which have been performed successfully by blind persons.

Let us hear from you again and if there is any further way which you feel we may be of assistance, please feel free to call upon me.

Sincerely yours,

John H. McAulay
Industrial Specialist for the Blind

APPENDIX F

METROPOLITAN LIFE INSURANCE COMPANY

One Madison Avenue, New York 10, N.Y.

March 20, 1951

Mr. H. Smith Shumway
2509 Wetherburn Road
Baltimore, 9, Md.

Dear Mr. Shumway:

In reply to your letter of the 15th, I may inform you that insurance company action on insurance for blind persons is supported by the results of studies of the mortality among the blind. This, in the Medical Actuarial Mortality Investigation of 1909 the small experience showed 15 deaths among blind persons as compared with 9 expected deaths on the basis of the mortality among standard risks. The Medical Impairment Study of 1929 showed 36 deaths among blind persons accepted for insurance as against 23 expected deaths.

The results of a study made in this office on the subject are given in the enclosed article.

There is some doubt that the questionnaire you propose will throw any light on the insurability of the blind. For that purpose a mortality experience must be built up and that means following a large group of such persons over a period of years.

The American Foundation for the Blind has previously made studies of the practices of insurance companies, and if you are not familiar with this you should write to the Foundation, the office of which is in New York City.

Very truly yours,

Louis I. Dublin
Second Vice-President
and Statistician

13-4
Enc.

APPENDIX C

2507 Hatherburn Road
Baltimore, 9, Maryland
March 24, 1951

Mr. George W. Keller
2 West Redwood Street
Baltimore, 1, Maryland

Dear Mr. Keller:

I am in the process of writing my Master's Thesis on the subject "How Safe Are The Blind?" I have prepared a questionnaire which I desire to send to as many industrially blind people as possible. I need your help because I would like to have a good sampling from every state. Could you please send me from twenty-five to one hundred names and addresses of industrially blind people known to you who are working at the present time or who have worked in the past. In this list I would like as many occupations represented as possible. Later on you will those you inform me of will be sent questionnaires. It will take approximately twenty minutes to fill out the questionnaire.

I hope you will find it possible to send me the list I desire. For this extra service on your part, I will not only list you in my Thesis as a contributor to it, but will also send you an analysis of my study upon request. I have developed a study which I believe will benefit all the blind. My study should produce many interesting results and some of these would be of special interest to placement men for the blind. Only industrially blind people will answer this questionnaire. However, if you are sighted, I shall send you a questionnaire so that you may know what my study is about.

May I hear from you soon in order that I can send out my questionnaires as quickly as possible?

Very truly yours,

N. Smith Shumway
Rehabilitation Counselor
for the Blind

APPENDIX B

2505 Wetherburn Road
Baltimore, 9, Maryland
April 4, 1951

Since I have not received a list of names from my request letter of March 29th, I am assuming that in some cases my letter was probably misleading. Willingness to help on the part of many, if procedures were slightly different, has prompted me to write this letter which I hope will clarify our thinking and enable you to cooperate.

My trouble started because I did not have the home addresses of the workers for the blind in the United States; therefore, I was forced to use their business addresses to correspond with them. For this reason many who have received my request for names of blind people known to them have interpreted it to mean clients of the agency they are serving. This was not my intention. Some of the names they send me might be clients, but many might not be. I want a strictly personal, individual reply to blind people you know who would probably answer a questionnaire. If you feel that you can send me the names of industrially blind people who have worked, or who are working, and who would be willing to spend twenty minutes in filling out a questionnaire, I would be glad to have you do so. If you feel you cannot do this, perhaps you might be able to help me in another way--as follows:

Perhaps I could send you the questionnaires and you would pass them out for me. I would send a self-addressed, stamped envelope, plus a cover letter, with each questionnaire. I would send as many as you felt you could distribute.

It is very important that all states be represented in my study, and I hope that you now feel that there is a way you can help me. The results obtained in this questionnaire should be very beneficial to the blind. Please remember that if you can assist me, you shall be considered a contributor to my Thesis and honored as such in it. An analysis of my study will be sent you upon request.

Thank you again for any kind consideration you show me, and I hope I will be able to repay it in the future. Please let me have your opinion as soon as possible as time is of great essence to me.

Thank you again.

Sincerely yours,

H. Smith Shumway
Rehabilitation Counselor
for the Blind

I am in the process of writing my Master's
the subject "How Safe Are The Blind?" I have pr
questionnaire which I desire to send to as many
ally blind people as possible. I need your help
I would like to have a good sampling from every
Could you please send me from twenty-five to one
names and addresses of industrially blind people
you who are working at the present time or who h
in the past? In this list I would like as many
represented as possible. Later on you and those
me of will be sent questionnaires. It will take
mately twenty minutes to fill out the questionna

I hope you will find it possible to send me
I desire. From this extra service on your part,
only list you in my Thesis as a contributor to i
also send you an analysis of my study upon requ
developed a study which I believe will benefit
My study should produce many interesting result
these would be of special interest to placement
blind. Only industrially blind people will rec
tionnaire. However, if you are sighted, I shall
you a questionnaire so that you may know what m
about.

May I hear from you soon in order that I c
my questionnaires as quickly as possible?

Very truly y

H. Smith Shu
Rehabilitation C
for the Bl

P.S. If you feel that you cannot possibly supp
names and addresses, would you be willing
tribute the questionnaire for me? I woul
to send you the number desired plus self-
stamped envelopes for their prompt return

APPENDIX J

THE NATIONAL FEDERATION OF THE BLIND

Office of the President
2652 Shasta Road
Berkeley 8, California

April 11, 1951

Mr. H. Smith Shumway
Rehabilitation Counselor for the Blind
2305 Fatherburn Road
Baltimore, 9, Maryland

Dear Mr. Shumway:

The National Federation for the Blind is holding its annual convention this summer in Oklahoma City, Oklahoma. The dates are June 17-20.

As usual some portions of our program will be taken up with problems of the rehabilitation and placement of the Blind. Naturally not the least of these problems is the fear of prospective employers that blind employees will be less safe than sighted workers.

May I invite you to attend our National Federation convention and to give us a talk on "How Safe are the Blind." We would like you to confine your formal discussion to 20 or 25 minutes so as to leave time for questions and comments from the floor.

May I have an answer from you in the near future.

Yours sincerely,

Jacobus tenBroek
President

ABSTRACT

K. Smith Stanley, M.A. 1952 (B.A. University of Wyoming)
Title of thesis: "How Safe are the Blind?"
Thesis directed by Professor R. Lee Hornbeck
Major: Counseling and Guidance
Pages in thesis, 97. Words in abstract, 522

Purpose. The purpose of this study was to determine how safe the blind are at and about the home, in traveling, and on the job.

Procedure. The questionnaire method was used. Names of blind persons with work experience were obtained. They lived in forty-three states and three provinces of Canada. Nine hundred and eighty-two questionnaires were sent out with a forty-three per cent return.

Results. In the entire work experience of the 438 persons studied, 26 per cent suffered injuries; 43 major and 88 minor injuries occurred. The average age for both sexes was 39 years.

The percentages of injuries suffered by 325 men and 113 women were similar with two exceptions. Women exceeded men in percentage of home injuries, whereas men exceeded women in percentage of injuries at work.

The percentage of injuries suffered by the partially blind as compared with the totally blind was about the same; however, when the partially blind were sub-divided into the categories good object, poor object, light perception, and limited fields, injury percentages were variable. The num-

ber of persons in each type of blindness was as follows: good object, 65; poor object, 69; light perception, 94; total blindness, 161; and limited fields, 43.

Only 7.55 per cent of the group received sick benefits during their blind working lives.

Occupational fields were represented as: sheltered shops, 46 persons; stands, 69 persons; self-employed, 84 persons; industry, 94 persons; and professional, 95 persons. In each group the percentage of injuries was similar with one exception, the professional group sustained twice as many as any other group.

Of those responding, 198 had worked under 5 years and 82 had worked over 5 years for their present organizations.

The average time lost because of sickness per blind person for the last year worked was 1.04-3.20 days. Over one-half of the persons who responded lost no time because of sickness. A study made in Maryland in 1949 of the general population showed that the average days lost from work per person in Maryland was 5.8.

The number of persons using different travel methods was recorded as follows: cane, 230; escort, 65; guide dogs, 32; use of no aid, 43; other methods, 40. Sickness and injuries were analyzed as to travel methods.

Life insurance was held by 146 persons. Increased premiums were paid by 98 persons, of which 63 stated the amount of increase per $1,000.00, which averaged an increased premium of $5.86 per $1,000.00. Names of life

insurance companies insuring the blind were noted.

Industrial accidents were suffered by 13 persons, or 2.95 per cent.

The time blind did not affect the number of injuries persons received. The average time blind was 22.34 years.

Additional handicaps did not increase injuries or sickness and were had by 40 persons, or 9.1 per cent, with one-third listing deafness.

"Accident Facts" by the National Safety Council, 1950, stated that during 1950 there was one major accident per 25 persons. The study "How Safe are the Blind?" reveals one major accident per 10 blind persons during their entire blind work history, which averaged 10.16 years. This means that there was one major injury incurred by every 100 blind persons for a one-year period.

VITA

Name: H. Smith Shumway

Permanent address: 2505 Retherburn Road, Baltimore, 9, Maryland

Degree to be conferred, date: M.A., 1952

Date of birth: November 27, 1921

Place of birth: Salt Lake City, Utah

Secondary Education: Lowell High School, Lowell, Wyoming

Collegiate Institutions Attended	Dates	Degree	Date of Degree
University of Wyoming	1939-1943	B.S.	March, 1943
University of Maryland	1948-1952	M.A.	1952

Position held: Rehabilitation Counselor for the Blind, State Department, 5 years